



Università
Ca' Foscari
Venezia

Master's Degree Program

in

Comparative International Relations

Final Thesis

**Path and perspectives for the criminalization of
Ecocide under International Law:**

**The vacuums of the current international criminal system in
cases of territorial occupation and “cumulative ecocide”**

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Academic Year

2023 / 2024

Index

List of abbreviations	iii
Abstract	1
1. Introduction	2
2. Existing system of peacetime protection from massive environmental destruction under international law	9
2.1. Legal meaning of environment under international law	12
2.2. International legal protection against massive environmental destruction during peacetime	15
2.2.1. Treaties and Conventions on massive environmental damage	17
2.2.2. Relevant customary law principles in cases of massive environmental harm	19
2.2.3. Crucial jurisprudence of international courts on environmental legal disputes	21
2.3. Existing consequences of peacetime massive environmental destruction: state responsibility and law of the treaties	24
2.3.1. General rules of international responsibility	25
2.3.2. Environmental obligations and responsibilities of states under international law	26
3. Wartime system of environmental protection from massive environmental degradation: states' obligations vs. criminal responsibility	29
3.1. Environmental damage from military conflicts	31
3.1.1. Military-related pollution of air, soil or water	32
3.1.2. Military-related deforestation	35
3.1.3. Military-related loss of biodiversity	37
3.1.4. Military-related population displacement	38
3.1.5. Physical soil modification from combat campaign	40
3.1.6. Military-related modifications to freshwater system	41
3.1.7. Military-related soil erosion	43
3.2. System of international legal environmental protection under armed conflicts	45
3.2.1. Wartime environmental obligations of states	45
3.2.2. Wartime environmental obligations of individuals: status quo of environmental criminal law	48
4. Worst environmental case scenario: birth and development of the notion of Ecocide	55
4.1. Birth of the concept of "Ecocide"	56
4.2. Legal evolution of the concept	59
4.3. Why to criminalize ecocide as an independent crime	65

5. Beyond State Responsibility and War Crimes: a draft proposal for an independent Crime of Ecocide	68
5.1. Legal elements of the IEP definition	73
5.1.1. "Severe"	73
5.1.2. "Widespread"	74
5.1.3. "Long-term"	75
5.1.4. "Acts"	76
5.1.5. "Unlawful"	77
5.1.6. "Wanton"	78
5.1.7. "Environment"	79
5.1.8. Mens Rea of the IEP crime of ecocide	80
5.2. General limits of the IEP proposal	83
6. The vacuums of International Criminal Law on ecocide under territorial occupation and cumulative ecocide: the case study of the Occupied Palestinian Territory	86
6.1. Territorial occupation in International Law and the case of the Palestinian territory	87
6.1.1. International Law on occupation	87
6.1.2. Legal considerations on the occupation of Palestinian territory	89
6.2. The environmental impact on Palestinian territory related to the Israeli occupation	99
6.2.1. Water Resources	101
6.2.2. Pollution, emissions and waste disposal	104
6.2.3. Deforestation, land degradation and loss of biodiversity	107
6.2.4. Environmental context after 7 th October 2023	110
6.3. Legal considerations in support of the necessity of an independent international crime of ecocide and its "cumulative" character	114
7. Conclusions	122
Bibliography	126
Websites	148
Podcasts	149

List of abbreviations

Articles on Responsibility of States for Internationally Wrongful Acts (ARSIWA)

Bacteriological (Biological) and Toxin Weapons and on their Destruction (BTWC)

Chemical and Biological Weapons (CBW)

Conference of the Parties (COP)

European Union Agency for Criminal Justice Cooperation (EUROJUST)

Food and Agriculture Organization (FAO)

General Assembly of the United Nations (UNGA)

Independent Expert Panel (IEP)

Intergovernmental Panel on Climate Change (IPCC)

Internally Displaced Persons (IDPs)

International Court of Justice (ICJ)

International Criminal Court (ICC)

International Criminal Tribunal for the former Yugoslavia (ICTY)

International Humanitarian Law (IHL)

International Law Commission (ILC)

International Tribunal for The Law of the Sea (ITLOS)

Occupied Palestinian Territories (OPT)

Permanente Court of Arbitration (PCA)

Persistent organic pollutants (POP)

Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)

United Nations (UN)

United Nations Convention on the Law of the Sea (UNCLOS)

United Nations Development Programme (UNDP)

United Nations Environment Programme (UNEP)

World Trade Organization (WTO)

Abstract

The present dissertation addresses the prospect of enlarging the scope of international criminal law for environmental protection purposes. The possibility will be, firstly, framed in a broader context of international environmental law development. After having presented the evolution of environment's legal meaning, different approaches to environmental protection, and the existing legal system of environmental protection from massive harm, the examination will focus on the international criminal responsibility of individuals for massive environmental damage. The analysis will underline the main criticalities attributed to the present international criminal system considering environmental harm under the umbrella of War Crime under the International Criminal Court Statute. On these bases, the paper will present and discuss the concept of Ecocide and the Stop Ecocide Foundation's proposal for an amendment to the Rome Statute. As a final note, analyzing the case of the Occupied Palestinian Territories will serve as a further element to argue for the necessity of the provision of an independent international crime of ecocide under the Rome Statute. In this respect, it will be argued that the material element of the crime would require to be formulated both as simple conduct and as cumulative conduct. The cumulative element of the crime would reflect the nature of environmental damage, differentiating itself from simple progressiveness.

1 Introduction

From the United Nations General Assembly's recognition of the right to a healthy environment¹, to cases of national recognition of natural elements' legal personality and of the rights of nature², from the recent European Union Directive 2024/1203 listing criminal offenses on the environment to be implemented nationally by state members³, to the scattering emergence of climate litigation cases all over the world⁴. In the last decade we have witnessed concrete steps forward in the realm of domestic, regional, and international law for the purposes of environmental protection and safeguard of environmental rights. In the same period, however, we have also witnessed the exacerbation of the so-called triple planetary crisis⁵, marking in 2023 the year of "broken promises"⁶. According to the United Nations Environment Programme, without immediate action, the Earth's temperature will increase by 2.5-2.9° by the end of the century and the estimates on financial needs for the climate adaptation would be 50% larger than previously calculated⁷, while extreme climate change events verify more frequently and more intensely⁸. This environmental deterioration requires us to tackle the issue from every available angle, sector and with every appropriate means. In this perspective, international law must play its pivotal role in establishing rights and duties, freedoms, and boundaries. Besides the appreciable above-mentioned legal developments, the room of international environmental law still ignores its elephant: the international crime of ecocide.

¹ GENERAL ASSEMBLY OF THE UNITED NATIONS. (2022). "The human right to a clean, healthy and sustainable environment". Resolution A/RES/76/300, 97th plenary meeting on 28 July 2022.

² TĂNĂSESCU, M., MACPHERSON, E., JEFFERSON, D., & TORRES VENTURA, J. (2024). "Rights of nature and rivers in Ecuador's Constitutional Court". *The International Journal of Human Rights*, 1–23.

PARLIAMENTARY COUNSEL OFFICE OF NEW ZEELAND. (2017). "Te Awa Tupua (Whanganui River Claims Settlement) Act 2017". Section 14 recites: "Te Awa Tupua is a legal person and has all the rights, powers, duties, and liabilities of a legal person."

³ EUROPEAN UNION. (2024). Directive (EU) 2024/1203 of the European Parliament and of the Council of 11 April 2024. Protection of the environment through criminal law and replacing Directives 2008/99/EC and 2009/123/EC, in force.

⁴ UNITED NATIONS ENVIRONMENT PROGRAMME (2023). "Global Climate Litigation Report: 2023 Status Review". Nairobi. Part 3. pp. 26-49

⁵ ANDERSEN I. (2020). "The triple planetary crisis: Forging a new relationship between people and the earth". Speech for the Subcommittee Meeting of the Committee of Permanent Representatives.

⁶ UNITED NATIONS ENVIRONMENTAL PROGRAMME. (2023). "Keeping the promise: Annual report 2023". Message from Executive Director of UNEP Andersen Inger.

⁷ *Ivi*, p. 2.

⁸ SENEVIRATNE, S.I., ET AL. (2021). "2021: Weather and Climate Extreme Events in a Changing Climate". In *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press. pp. 1513–1766

The responsibility for criminalizing large-scale environmental offenses was left with states or regional organizations, which provided directives on how to implement (once again) national legislation⁹. Offences defined as such by international environmental treaties, such as CITES¹⁰ and the Montreal Protocol¹¹, are, in fact, ultimately criminalized by national legislation¹². This category of crimes can be identified as “transnational crimes”¹³, differentiating from the pure international crimes, focus of the present dissertation. However, environmental crisis developments in the last decades have motivated scientists, lawyers, and scholars to question the effectiveness of such a residual approach. Ecocide, being the “environmental variant to genocide,” was firstly conceptualized by scientist Arthur W. Galston and presented in 1970 during the Congressional Conference on War and National Responsibility in Washington. Galston drew its tragic inspiration from the devastating damage inflicted on the Vietnamese and Cambodian territories between 1961 and 1975 during the Vietnam War. Since its invention, the crime of ecocide has been extensively debated, with several proposals put forth to provide the international criminal law system with legal bases for the prosecution of massive environmental crimes. Nevertheless, the current international criminal system, with its foundations in the International Criminal Court (ICC) statute¹⁴, suffers from the lack of an unequivocal provision in this sense. Smith advances two different sets of modification of the current legal structure to effectively introduce the ecocide criminal offense¹⁵. In her view the possibilities are either (a) ameliorating the current environmental war crime by lowering the threshold of harm and by allowing the prosecution of the crime for non-international armed conflict or (b) introducing a new independent crime. Mistura also mentions the possibility to frame the crime under customary international law reflecting its last developments. While enlarging the applicability of the crime, this approach would pose problems regarding the practical modalities for prosecution and the principle of legal certainty and legality¹⁶, which do not admit ambiguousness. A similar argumentation could be advanced against the proposal to tackle the issue

⁹ MISTURA, A. (2019). “Is There Space for Environmental Crimes Under International Criminal Law? The Impact of the Office of the Prosecutor Policy Paper on Case Selection and Prioritization on the Current Legal Framework”. *Columbia Journal of Environmental Law*. p. 213.

¹⁰ *Convention on International Trade in Endangered Species of Wild Fauna and Flora Main navigation*. Signed on 3 March 1973, entered into force on 1 July 1975.

¹¹ *Montreal Protocol on Substances That Deplete the Ozone Layer*. Signed on 16 September 1987, entered into force 1 January 1989.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Article 1.

¹⁵ SMITH, T. (2011). “Creating a Framework for the Prosecution of Environmental Crimes in International Criminal Law”. In *Companion to international criminal law: critical perspectives*, William Schabas, Yvonne McDermott, Niamh Hayes and Maria Varaki, eds., Ashgate Publishers.

¹⁶ MISTURA, A. (2019). “Is There Space for Environmental Crimes Under International Criminal Law? The Impact of the Office of the Prosecutor Policy Paper on Case Selection and Prioritization on the Current Legal Framework”. *Columbia Journal of Environmental Law*. p. 221.

by means of universal jurisdiction¹⁷. In fact, the decision to prosecute a crime under universal jurisdiction can be subject to two restricting factors: first, the state must decide positively on the adoption of universal jurisdiction over the given crime, and, secondly, at least in states with prosecutorial discretion, the public prosecutor must actually decide to initiate a proceeding. Moreover, universal jurisdiction is mainly exercised over international crimes, such as genocide, crimes against humanity or war crimes, deriving once again from the Rome Statute as their original legal source¹⁸. Despite the possibility of declaring universal jurisdiction over crimes different from the ones provided by the Rome Statute, practice shows that universal jurisdiction is declared over international crimes by 147 states out of 193, while only 91 states have declared universal jurisdiction over different conduct¹⁹. As a result, the prosecution of international environmental crimes cannot be left with universal jurisdiction alone, since it largely presumes a provision of international law, even customary law. But first, what are the international system's structural limits to the emergence of environmental criminal law? Is it necessary and worth it to institute an independent international crime of ecocide?

According to Mégret four are the main constraints to the provision of the international environmental crime: (a) international law itself as a system still based merely on the willingness of states, (b) global environment as a globally non-straightforward notion, (c) international environmental law considered as “non naturally inclined to criminalization”²⁰, and (d) criminal law's essence in relation to nature²¹. Concerning international law, its very nature has been seen as a major impediment to the emergence of binding provisions limiting national sovereignty such as criminal law or environmental law. However, it has been argued that the conception according to which international law should work as domestic law in terms of criminal enforcement is essentially misleading²². As a consequence, current paths of environmental offences criminalization, namely cross-border offence from private actors, inter-state offences and “most serious crimes of international concern”²³, cannot be sufficient. Nevertheless, the author concludes that these

¹⁷ TOMUSCHAT C. (2005). “Resolution of the 26 August 2005”. Institute of International Law. 17th Commission on Universal Criminal Jurisdiction with Regard to the Crime of Genocide, Crime against Humanity and War Crimes. Para. 1. “Universal jurisdiction in criminal matters, as an additional ground of jurisdiction, means the competence of a State to prosecute alleged offenders and to punish them if convicted, irrespective of the place of commission of the crime and regardless of any link of active or passive nationality, or other grounds of jurisdiction recognized by international law.”

¹⁸ *Ivi.* Para. 2. See also

¹⁹ AMNESTY INTERNATIONAL. (2012). “Universal jurisdiction a preliminary survey of legislation around the world – 2012 update”. p. 12.

²⁰ MÉGRET, F. (2011). “The Problem of an International Criminal law of the Environmental”. *Colum. J. Envtl. L.* p. 204.

²¹ *Ibid.*

²² *Ivi.*, p. 205.

²³ *Ivi.*, p. 207.

problematics, inherent to the system itself, constitute reasons enough to claim that criminalizing ecocide prematurely would actually have a weakening effect on the protection of environment and on the international norms²⁴. Secondly, various further aspects relating to the very essence of environment can also affect the implementation and effectiveness of criminalization. Instances would be the economic importance of natural resources as well as the transnational spreading potential of a given environmental harm. The structure of the international legal system and the regime on legal jurisdiction would represent obstacles to the prosecution of private transnational crimes²⁵. Moreover, in some cases an intrinsic impossibility to locate the source of harm can verify, increasing the complexity of environmental harm prosecution²⁶. A further aspect worth of mention is the theory of the “tragedy of the commons” by Garrett Hardin which originally focuses on the issue of population growth but can also apply to “any instance in which society appeals to an individual exploiting a commons”²⁷, and, therefore, can help us understand how the essence of the environment influences the criminalization of environmental harm. According to the theory, common resources would be exploited by any actor who could take advantage from them, but no entity would bear the burden of their conservation for the fear of ending up doing it alone, even if the care would be advantageous for the state itself. Essentially, in the specific case, states would not bear the costs of criminalization of private exploitation of common natural resources to avoid keeping companies from investing in the country, despite ending up damaging its own resources. What is more, states can also free ride the benefits of environmental protection without actually implemented it²⁸. Thirdly, the legal system itself, both national and international, can be seen as an obstacle since it has been more oriented towards regulating natural exploitation under an administrative regulatory framework or under tort law, rather than criminal law arguing that environmental law is too complex and dynamic to fall under legal categorizations²⁹. According to Mégret, international law would not suit criminal law forms since it “focuses on states” and its real scope would be to facilitate and encourage international cooperation, rather than polarizing member states³⁰. Finally, limitations seem imposed by the nature of criminal law. In particular, differently from other offences, environmental damage does not only imply costs for society but also benefits. And often these benefits can be hard to differentiate into legal or illegal. Moreover, it could be

INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Article 1.

²⁴ MÉGRET, F. (2011). “The Problem of an International Criminal law of the Environmental”. p. 211.

²⁵ MÉGRET, F. (2011). “The Problem of an International Criminal law of the Environmental”. p. 214.

²⁶ *Ibid.*

²⁷ HARDIN, G. (1968). “The Tragedy of the Commons”. *Science*, 162, 1246.

²⁸ MÉGRET, F. (2011). “The Problem of an International Criminal law of the Environmental”. p. 215.

²⁹ *Ivi*, p. 218.

³⁰ *Ivi*, p. 218-221.

argued that considering the negligence characterizing environmental criminal offences, on the contrary of intentional offences, it would not be fair to entail heavy international prosecution and punishment and that environmental law provisions would be too vague or broad. In this sense, criminalization of conduct would not be the optimal solution to slow the environmental deterioration down. Finally, for what concerns the ICC the *rationae personae* requirement would limit the criminalization to natural persons, leaving aside offences caused by legal persons. Despite the multitude and complexity of the obstacles to the emergence of an international crime of ecocide, scholars and activists did not refrain from advocating for it.

The criminalization of conduct at the international level must not be invoked or overexploited purely in light of its capacity to constitute a further means for the protection of an interest whatsoever. Acting contrary and invoking the criminalization of conduct without the necessary legal bases would have the side effect of jeopardizing the status of the ICC and the perception of the international crimes' seriousness. The advocacy for the international criminalization of a conduct, such as massive environmental harm, must consider and respect the exceptional nature of the "most serious crimes of concern to the international community as a whole"³¹. International criminalization cannot be seen solely as a complementary means to fill the gaps of different national legislations or civil and administrative frameworks, but its motives should aim at safeguarding the interest of the whole international community. Conservation criminology³² at the international level, must be based on legal argumentations and necessities, as well as natural resources studies and risk and decisions sciences. Nevertheless, the status of international crimes does not raise a requirement of optimality or perfection of circumstances to argue for the emergence of a new crime. The argumentation put forward by a share of scholars regarding the alleged suboptimality of the criminalization approach³³ lacks taking into account the difference between absolute suboptimality and relative suboptimality. Criminalization, like any other legal pathway, does not require to be the absolute optimal option to be implemented. A suboptimal absolute solution is often the optimal relative solution, in function of the actual practicability factor. Moreover, the one above is frequently used as a rhetorical argumentation, avoiding being followed by more-in-depth alternatives. Finally, theses regarding the suboptimality of this approach to environmental protection seem not to consider that the optimal approach has virtually not been found in an international system which still lays on states consensus.

³¹ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Article 5.

³² GIBBS, C., GORE, M. L., MCGARRELL, E. F., & RIVERS, L. (2010). "Introducing Conservation Criminology: Towards Interdisciplinary Scholarship on Environmental Crimes and Risks". *The British Journal of Criminology*, 50(1), 124–144.

³³ MÉGRET, F. (2010). "The Challenge of an International Environmental Criminal Law". p. 12.

The reasonings supporting an independent international environmental crime have legal and social bases. Argumentations based on social dynamics explain how criminalization, in general, and international criminalization, in particular, are argued to have a substantial deterrence effect and to have an important symbolic power. According to Mégret, the deterrent effect could be even stronger in the case of environmental offences, since the decision to carry out the conduct is taken in “cold blood”, without the urgency or rush typical of other decision-making situations related to international crimes (usually during armed conflicts or critical political context)^{34 35}. However, to maintain the preventive effect, the sanctioning system must be effective and sufficiently severe³⁶. The preventive effect should not distract from what constitutes the direct aim of criminalization: prosecuting criminal offences. It is undeniable that the possibility to prosecute ecocidal conduct would symbolize the renewed perception of the environmental issue’s international character, reflecting developments in terms of sensitivity to the environmental cause, demonstrated by most recent environmental law developments. In the words of former prosecutor at the ICC Alex Whiting, criminalizing come with a “ripple effect”³⁷. Individual liability for massive environmental harm would limit the perception of impunity of private or public leading individuals who hide behind states or companies’ rankings. Several international legal instruments³⁸ indicate the legal value of environment as a “concern of the community as a whole”³⁹, even if a comparative study of the system of criminal penalties for environmental crimes in individual countries indicates the absence of common approaches to its unification and practical application⁴⁰. For what concerns argumentations based on legal reasoning, one could argue that it is not morally and legally consistent to prohibit conduct in war times and allow them in peacetime. Intuitively, what determines the gravity of the harm should be its impact, not its context. Moreover, the complexity of a problem should not be a reason enough to not tackle the issue itself, especially when it comes to conduct which causes serious damage to commons of international interest. Again, the fact that harm is virtually often caused by negligence cannot lead to the conclusion that a system of criminal liability should not be set up at all. Another point worth mentioning is that the diffusion of criminal environmental law at a domestic level should, again, not constitute a reason not to criminalize internationally the most serious harm to the environment. Finally, the international criminal system

³⁴ *Ibid.*

³⁵ RÉES, H. (2017). “Can Criminal Law Protect the Environment?”. p. 111.

³⁶ *Ibid.*

³⁷ STERIO M. (2024). “Crimes Against the Environment, Ecocide, and the International Criminal Court”. p. 230.

³⁸ See ILC’s Draft Code of Crimes Against Peace and Security of Mankind, ICC Policy Papers, United Nations Environmental Program Reports.

³⁹ Recalling Article 5 of the Rome Statute: INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126.

⁴⁰ KYRYCHENKO O., KHRYSSTOVA Y., SKOK O., SHEVCHENKO T., LITUN O. (2021). “Criminal environmental protection: international practices and priorities for improving”. *Revista de la Universidad del Zulia*. 102-120.

is criticized as rarely effective in terms of prosecutions actually carried out. These critics, however, do not seem to explain why this assumption should have as a consequence the abandonment of the system itself and not its amelioration, by advocating for a deepening of the scope and enlargement of the jurisdiction. Finally, criminalizing ecocide would determine the possibility of prosecuting both “global and corporate leaders”⁴¹ for their detrimental actions on the environment, without hiding behind the company’s responsibility as legal person.

Ultimately, can ecocide be criminalized as an independent crime under international law? If so, what should the elements of the crime be? What should be the mens rea and the actus reus? Are there proposals in this sense? Can they be viewed as complete? Having briefly presented the main points raised in the academic domain on the issue, the present paper will gradually construct an analysis of the issue under legal lens and, finally, argue in favor of the international criminalization of ecocide. Firstly, the study will introduce the current international system of environmental protection in peacetime against massive harm, which mainly concerns states under the states’ responsibility regime. Secondly, the wartime environmental damage will be presented, to be followed by a discussion on the regimes of states responsibility and criminal responsibility in wartime. Once the current structure is provided, the concept of ecocide, its evolution, and the most concrete proposals for its introduction in the Rome Statute will be unpacked. Finally, the research will serve itself of the case study of the Occupied Palestinian Territory to argue in favor of the criminalization of ecocide as an independent crime, in light of the current vacuum or uncertainty in contexts of territorial occupation and in cases of cumulative conduct.

⁴¹ STERIO M. (2024). “Crimes Against the Environment, Ecocide, and the International Criminal Court”.

2 Existing system of peacetime protection from massive environmental destruction under international law

The necessity for the enhancement of environmental protection by enlarging the scope of current international criminal law is to be framed within a broader context of international environmental law development. At this primary stage, it is therefore necessary to provide for this contextual element by addressing the evolution and the key features of international environmental law as a branch of international law. The movement for the international regulation of environmental safeguard is considered to be recent compared to general international law or to its other branches. The development of environmental international law can be seen as driven by various aspects and objectives. According to Kiss and Shelton, the motives behind the instance on environmental protection concern mainly religious or ethical beliefs, joined subsequently by reasons of prevention of conflicts over natural resources⁴². Ethical beliefs focus on concepts such as equity and environmental justice in the regards of living humans, as well as future generation and other living species⁴³. Caldwell and Weiland argue that the progress of environmental protections reflects “change in human perceptions of life on earth,” and that this perception can be influenced by “transnational religions and popular ethics”⁴⁴. In their view, environmental ethics has become a part of the decision-making process for public policies and international agreements. Finally, Dupuy and Viñuales, differently, attribute the advancement of environmental protection to objectives of “resource preservation and nature conservation but also [to concerns regarding] pollution, overpopulation or environmental security”⁴⁵. What is striking is the common line between these motivations. All of them consider the implications of environmental damage mainly in terms of humanity’s needs, reflecting John Locke’s traditional conception according to which the “land that is left wholly to nature... is called, as indeed it is, waste”⁴⁶. Rarely environmental harm is approached in its consequences in and of itself. QUI

The analysis will move from what is defined as “modern environmental law system,” which evolved departing from the end of the nineteenth century and early twentieth century⁴⁷. International

⁴² SHELTON D. L., KISS A. (2007). *Guide to International Environmental Law*. Martinus Nijhoff Publishers. P. 31-32

⁴³ *Ibid.*

⁴⁴ CALDWELL, L. K., & WEILAND, P. S. (1996). *International Environmental Policy: From the Twentieth to the Twenty-First Century*. Duke University Press. Introduction.

⁴⁵ DUPUY, P.-M., VIÑUALES, J. E. (2018). *International Environmental Law*. 2nd edition. Cambridge: Cambridge University Press. p. 1

⁴⁶ RIFKIN, J. (2013). *The Third Industrial Revolution: how lateral power is transforming energy, the economy, and the world*. St. Martin’s Press. p. 199.

⁴⁷ *Ivi*, p. 3.

law passed from regulating environmental protection merely in terms of resource exploitation under an incidental approach, to an international legislation creating a fragmented system, to, recently, attempts to implement a holistic approach⁴⁸. In the primordial state of international environmental law, up until 1972, international treaties were the center of a system strictly anchored to inter-governmental negotiation and consensus⁴⁹. According to relevant scholars, treaties were concluded with the aim of regulating the advantageous use and exploitation of such resources⁵⁰. In their view, agreements and conventions were mostly incidental to the needs of bordering states or states that were benefiting from the use of the same natural good and required to regulate it. According to Ben-David, instead, international environmental law was conceived as a means for the conservation of nature from the very beginning⁵¹. Certainly, the 1909 Treaty Between the USA and Great Britain Respecting Boundary Waters Between the USA and Canada perfectly examples the first view on the initial phase. Coming to the end of World War II, the international system began to show signs of an expanding attention to the environment, exemplified by the 1946 International Convention for the Regulation of Whaling or the 1954 International Convention for the Prevention of Pollution of the Sea by Oil. However, the lack of coordination and spatial diffusion limited the impact of such conventions. Subsequently, a new phase opened with the Stockholm Conference in 1972. International law began to protect the environment as a result of specific sectoral conservation treaty laws, nevertheless creating the basis for a fragmented legal system⁵². Ghering highlights the “Constitutionalization of Environmental Treaty Systems” as an issue of the period. Under this view, treaties would function as the legal basis for new organizations and apparatus that would, then, have their own life, detaching from the constituting legal instrument⁵³. While having the merit of attributing to environmental law the status of an actual branch of international law, this approach, defined as anthropocentric⁵⁴, considered nature merely as a good to be preserved in function of humanity’s needs. Moreover, priority is given to the conclusion of agreements, not to their completeness and effectiveness. Often, the result is a step-by-step legal action with a short-term and foreseeable implementation. This approach differs significantly from human rights law which aims

⁴⁸ EVANS, M. (2018) *International Law*, Oxford, Fifth Edition. pp. 678-679.

⁴⁹ GEHRING T. (2007). “Treaty-making and Treaty evolution”. In *The Oxford Handbook of International Environmental Law* edited By Daniel Bodansky Jutta Brunnee and Ellen Hey. p. 470.

⁵⁰ See Evans, Ghering, Dupuy, Viñuales.

⁵¹ BEN-DAVID, M. (2011). Defining International Environmental Law [Review of *The Art and Craft of International Environmental Law*, by D. Bodansky]. *Ecology Law Quarterly*. P. 553–561.

⁵² GEHRING T. (2007). “Treaty-making and Treaty evolution”. In *The Oxford Handbook Of International Environmental Law* edited By Daniel Bodansky Jutta Brunnee and Ellen Hey. p. 475-476.

⁵³ Ivi, p. 473-475.

⁵⁴ DE LUCIA, V. (2023). “Anthropocentrism and International Environmental Law”. In *The Routledge Handbook of International Law and Anthropocentrism*. pp.84-101.

at a long-term objective and generate great “implementation deficits”⁵⁵. The step-by-step approach to environmental law results in fragmentation and lack of comprehensive perspective. Exemplar agreements falling under this category are the 1972 London Dumping Convention, the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage and the 1979 Bonn Convention on the Conservation of Migratory Species of Wild Animals. Finally, the holistic approach is advancing as a new way forward. This approach would resolve to redefine the structure of environmental protection aiming at reconciling various human-related needs such as human rights and economic development with the protection of nature, setting the tone for the theorization of what is now defined as sustainable development⁵⁶. The milestone moment opening the new phase was the 1992 Rio Conference on Environment and Development, which gave light to the Framework Convention on Climate Change and to the Convention on the Conservation of Biological Diversity. Despite having revolutionized the approach and idea of environment, the Conference was not followed by similar progressive steps. A particular merit of the system of conventions and intergovernmental institutions was that of introducing a process of legislation within the institutions themselves. According to De Lucia, the holistic approach would be followed by the theorization of an “ecosystem approach,” focusing on the “legal and governance” strategy for the cooperative management of natural resources, constituting common ground between anthropocentrism and the last evolving approach, ecocentrism⁵⁷. In fact, the most recent phase saw the theorization and advancement of the so-called ecocentric approach. It would pursue an idea of nature worth of protection in and of itself, regardless of its value for human development or wellbeing⁵⁸. Recent progress seeks to consolidate the right to a healthy environment as an ecological right of every living organism, opposing to the traditional anthropocentric understanding. This approach marks a change in the conception of the environment and environmental protection, but not in the legal methods for the international protection of environment. Legal regulation still develops mainly throughout intrastate conventions and treaties involving international organizations, with the adoption of additional protocols and the acceptance of reserves as the primal means for the enlargement of agreements themselves. An effective tool for the advancement of the ecocentric approach was found in climate litigation, especially in the South American system,

⁵⁵ Ivi, p. 476.

⁵⁶ HAIMES Y. Y. (1992). "Sustainable development: a holistic approach to natural resource management," in IEEE Transactions on Systems, Man, and Cybernetics, vol. 22, no. 3, pp. 413-417.

⁵⁷ DE LUCIA V. (2015). “Competing Narratives and Complex Genealogies: The Ecosystem Approach in International Environmental Law”. *Journal of Environmental Law*. Volume 27, Issue 1. March 2015. Pages 91–117. <https://doi.org/10.1093/jel/equ031>

⁵⁸ FENSTERSEIFER, T., & MORATO LEITE, J. R. (2024). “Towards ecological law? Environmental law on the threshold of a new ecocentric legal paradigm in the Anthropocene” DPCE Online, 64(2). <https://doi.org/10.57660/dpceonline.2024.2173>

proving the importance of a working legal system for the protection of environment⁵⁹. The process towards a higher environmental protection does not show signs of slowing down, since the relevance of the ecological issue is likely about to become more and more central in world politics. Innovative ideas and perspectives on how to consider the environment are flourishing inside and outside the realm of international law. National legislation also plays a significant role in leading the progress of environmental law. Instances can be found in New Zealand with the provision of natural personality to the Whanganui River⁶⁰, reflecting what has been defined as “legal ecocentrism”⁶². What the international legal system has proved is that renewed sensitivity can be turned into legal terms. The conceptualization of victimhood of the environment under international criminal law is one of the most recent progresses in this direction⁶³. Nevertheless, a considerable time lag is necessary for the system to evolve, which the environment regrettably cannot afford. As maintained by Professor Michelle Ben-David, international environmental norms system developed and changed alongside progress regarding the meaning of environment itself⁶⁴. It is, therefore, essential to explore the meaning of the environment under international law. How was the environment conceived yesterday and how is it considered today according to the available legal instruments?

2.1 Legal meaning of environment under international law

The contemporary legal conception of environment is the result of a progressive path of social and cultural development towards renewed sensitivities and paradigms, particularly departing from the late sixties. Considering the above-mentioned developments, the legal meaning of environment can be discussed departing from the 1972 Stockholm Declaration in light of its impact on the advancement of a comprehensive approach tackling environmental protection. In the Declaration

⁵⁹ DE SALLES CAVEDON-CAPDEVILLE F., BERROS M. V., FILPI H., VILLAVICENCIO-CALZADILLA P. (2024). “An Ecocentric Perspective on Climate Litigation: Lessons from Latin America”. *Journal of Human Rights Practice*. Volume 16, Issue 1, February 2024, Pages 89–106.

⁶⁰ CRIBB, M., MACPHERSON, E., & BORCHGREVINK, A. (2024). “Beyond legal personhood for the Whanganui River: collaboration and pluralism in implementing the Te Awa Tupua Act”. *The International Journal of Human Rights*. p. 7

⁶¹ SANDERS K. (2018). “‘Beyond Human Ownership’? Property, Power and Legal Personality for Nature in Aotearoa New Zealand”. *Journal of Environmental Law*. Volume 30. p. 223.

⁶² BOURGEOIS-GIRONDE S. (2024). “Nature in the law: An evolution from environmental law to legal ecocentrism”. In *Research Handbook on Legal Evolution*, edited by Wojciech Załuski, Sacha Bourgeois-Gironde, and Adam Dyrda. pp. 232-246.

⁶³ KILLEAN, R., & NEWTON, E. (2024). “From ecocide to ecocentrism: Conceptualising environmental victimhood at the International Criminal Court”. *International Review of Victimology*.

⁶⁴ BEN-DAVID, M. (2011). Defining International Environmental Law [Review of *The Art and Craft of International Environmental Law*, by D. Bodansky]. *Ecology Law Quarterly*. P. 555.

environment is clearly conceived and defined in function of humanity's needs. The following extract of the Declaration exemplifies the historical moment's approach:

*“Man is both creature and molder of his environment, which gives him physical sustenance and affords him the opportunity for intellectual, moral, social and spiritual growth. In the long and tortuous evolution of the human race on this planet a stage has been reached when, through the rapid acceleration of science and technology, man has acquired the power to transform his environment in countless ways and on an unprecedented scale. Both aspects of man's environment, the natural and the man-made, are essential to his well-being and to the enjoyment of basic human rights the right to life itself.”*⁶⁵

An early definition of environment, albeit implicit, can be found in Principle 2 of the 1972 Declaration of the United Nations Conference on the Human Environment:

*“The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.”*⁶⁶

Similar definitions can be found in the 1972 UNESCO Convention for the Protection of the World Cultural and Natural Heritage, 1992 UN Convention on Biological Diversity, 1972 London Dumping Convention and in the 1979 UN ECE Convention on Long Range Transboundary Air Pollution. Other relevant environmental agreements do not contain an actual definition of environment, even though their subject is its protection, such as the 1997 Kyoto Protocol. The Council of Europe has brought a new broader understanding of environment in the context of the 1993 Convention on Civil Liability for Damage Resulting from Activities Dangerous for the Environment including the relational dimension. At Article 2.10 environment is defined as:

*“Natural resources both abiotic and biotic, such as air, water, soil, fauna, and flora and the interaction between the same factors; property which forms part of the cultural heritage; and the characteristic aspects of the landscape”*⁶⁷.

In 1996 the International Court of Justice (ICJ) issued an Advisory Opinion in the context of the Legality of the Threat or Use of Nuclear Weapons case, adding the temporal dimension of

⁶⁵ UNITED NATIONS. (1972). *Declaration of the United Nations Conference on the Human Environment*. p. 3.

⁶⁶ UNITED NATIONS (1972), *Declaration of the United Nations Conference on the Human Environment*, p. 4.

⁶⁷ COUNCIL OF EUROPE. (1993). *Convention on Civil Liability for Damage Resulting from Activities Dangerous for the Environment*. Not in force. pp. 3-4.

environment. Environment, in fact, cannot be conceived as confined in a specific period in time. To be complete, its conception needs to include its future value. The ICJ declared that:

*“The environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn”*⁶⁸.

Continuing, the Permanent Court of Arbitration in 2005 in the Iron Rhine case set the standard definition, by referring to the environment as:

*“Including air, water, land, flora and fauna, natural ecosystems and sites, human health and safety, and climate”*⁶⁹.

The following year, the International Law Commission (ILC) issues the Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities that define the environment including a relational paradigm resuming the 1993 Council of Europe definition. What is more, according to the ILC definition, the meaning needs to be opened to different evolutions and to reflect the different approaches all around the world. The Commission argued that:

*“[e]nvironment could be defined in different ways for different purposes and it is appropriate to bear in mind that there is no universally accepted definition”*⁷⁰.

As of today, an agreement upon the definition of environment at the United Nations level has not been adopted yet and the Charter does not even contain the word “environment.” The latest developments on the environmental issue within the UN bodies concern the recent provision of the right to a safe, healthy, and clean environment. During its seventy-sixth session on July 28th, 2022, the General Assembly adopted Resolution A/RES/76/300, which recites:

*“The promotion of the human right to a clean, healthy and sustainable environment requires the full implementation of the multilateral environmental agreements under the principles of international environmental law”*⁷¹.

⁶⁸ INTERNATIONAL COURT OF JUSTICE. (1996). “Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons”. Reports of Judgments, Advisory Opinions and Orders. 8 July 1996. Paragraph 29, p. 19.

⁶⁹ PERMANENT COURT OF ARBITRATION. (2005), “Award of the Arbitral Tribunal regarding the Iron Rhine (Ijzeren Rijn) Railway”. p. 28.

⁷⁰ INTERNATIONAL LAW COMMISSION. (2006), *Draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities, with commentaries*. Yearbook of the International Law Commission. Vol. II. Part Two. Paragraph 19 of the commentary to Principle 2, p. 69.

⁷¹ GENERAL ASSEMBLY OF THE UNITED NATIONS. (2022). “The human right to a clean, healthy and sustainable environment”. Resolution A/RES/76/300, 97th plenary meeting on 28 July 2022, paragraph 3, p. 3.

However, the application of this recently-recognized right is likely to encounter difficulties as the concept is subjective of case-by-case interpretation. At the same time, such freedom is to be interpreted according to the spirit of the law, which calls upon states and international organizations to comply with the obligation to respect, protect and promote human rights. As pointed out by Boyle⁷², there is no treaty or convention that sets out systematic basic environmental rules or principles, able to be compared to the 1948 Universal Declaration of Human Rights for humanitarian international law or the 1947 General Agreement on Tariffs and Trade relatively to commercial international law. It is possible to conclude that a global definition of environment has not been agreed upon yet. It is also fair to state that the obligation to protect it is consolidating under customary law, while its meaning is continuing to evolve and enrich.

2.2 International legal protection against massive environmental destruction during peacetime

The legal preservation of environment comprehends an enormous number of aspects, actions and actors, but, considering the focus of the present dissertation, it is now due to display the existing international legal framework for the protection of the environment specifically against massive destruction of pollution. As briefly presented in the previous section, environmental protection as such, independently from the needs of concurrent states, has been conceived mainly after the 1972 Stockholm Conference. In order to witness the creation of legislation aimed at halting or limiting widespread or long-term damage to the environment, the world would have to wait longer. In the present segment the currently available legal instruments for the protection of nature from large-scale destruction in peacetime will be presented and analyzed. But first, how is “massive harm” defined in legal terms?

First and foremost, it is worth noting that no legal definition of “harm” under environmental terms is generally accepted and its meaning can vary source by source. This uncertainty could be seen as problematic, but it also allows us to include a wider spectrum of damage. Moreover, as a result of the absence of consensus on the legal definition of “massive destruction” (often declined as “serious”), the concept will be here addressed according to the available instruments. As a starting point, Article 2 of the 1990 ILC Draft Articles on International Liability for Injurious Consequences arising of Acts not Prohibited by International Law, a “serious” damage is declined and meant as

⁷² BIRNIE P., BOYLE A., AND REDGWELL C. (2009). “Rights and obligations of states concerning protection of the environment”. *International Law and Environment*. Oxford University Press. p.108.

"appreciable". It "*describes a risk which is not only higher than normal in a human activity but also easily perceptible, or foreseeable*"⁷³. In 1994 the term "appreciable" has been substituted by "significant", but the elucidation remained valid⁷⁴. The 1997 Convention on International Watercourses at Article 3 refers to "significant harm" listing its characteristics⁷⁵: it must be possible to be established by "objective evidence"⁷⁶ and be more than "trivial in nature"⁷⁷, not to be misinterpreted as "substantial"⁷⁸. Article 3(3) of the 1992 Framework Convention on Climate Change, instead, defines a "significant harm" as "serious or irreversible damage"⁷⁹. Therefore, generally, legal instruments refer to massive destruction mainly as serious or long-lasting harm or damage to the environment, without further clarification. For what concerns non-codified sources of law, up until a decade ago environmental law's evolution was too recent to be widely accepted and coded⁸⁰, and it is safe to argue that, as of today, the codification level of customary environmental law has not developed significantly. The importance of specifying the duties of states and organizations in the context of treaties, conventions, courts' decision, and other sources of law regarding massive pollution or harm to the environment comes from the fact that international law is generally more open to interpretation and less enforceable than domestic law. Therefore, damage to the environment is often not prosecuted or punished. As a result, the necessity to provide for clear legal obligations in the sense of protection against (at least) severe harm to the environment is outstanding.

⁷³ INTERNATIONAL LAW COMMISSION. (1990). "International liability for injurious consequences arising out of acts not prohibited by international law". Yearbook of the ILC. Volume I. Summary records of the meetings of the forty-second session. Sixth report of the Special Rapporteur. Article 2(1)(e), p. 224.

⁷⁴ INTERNATIONAL LAW COMMISSION. (1994). *Draft Articles on the Law of the Non-Navigational Uses of International Watercourses*. Yearbook of the ILC. Report of the Commission to the General Assembly on the work of its forty-sixth session. Volume II. Commentary to article 3, p. 94.

⁷⁵ GENERAL ASSEMBLY OF THE UNITED NATIONS. (1997). *Convention on the Law of the Non-navigational Uses of International Watercourses*. Adopted on 21 May 1997, entered into force on 17 August 2014. GA resolution 51/229, annex. Official Records of the General Assembly. Fifty-first Session, Part IV, Article 21, p. 9.

⁷⁶ INTERNATIONAL LAW COMMISSION. (1994). *Draft Articles on the Law of the Non-Navigational Uses of International Watercourses*. Yearbook of the ILC. Report of the Commission to the General Assembly on the work of its forty-sixth session. Volume II. Commentary to article 3, p. 94.

⁷⁷ *Ibid.*

⁷⁸ *Ibid.*

⁷⁹ UNITED NATIONS. (1992). *United Nations Framework Convention on Climate Change*. Entered into force on 21st March 1994. Article 3. p. 4.

⁸⁰ BIRNIE P., BOYLE A., AND REDGWELL C. (2009). "Rights and obligations of states concerning protection of the environment". *International Law and Environment*. Oxford University Press. p. 107.

2.2.1 Treaties and Conventions on massive environmental damage

Treaties and conventions represent the most common source of environmental international law used by states and international organizations to regulate bilateral and multilateral relations, especially during the second half of the 20th century. While regulating the disposability and use of natural resources, only a limited number of international agreements treat the circumstances of what we define as massive damage. The Stockholm Declaration mentions in the preamble that “through ignorance or indifference we can do massive and irreversible harm to the earthly environment on which our life and well-being depend”⁸¹. Nonetheless, the letter of the law does not bring to light the circumstances of massive harm, and little is prescribed to avoid such ignorance and indifference. Concerning serious damage, only Principle 6 states as follows:

*“The discharge of toxic substances (...) and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems.”*⁸²

In 1992 the risk of serious damage to natural resources was subject of higher awareness as demonstrated by the Rio Declaration, but meaning of “severe degradation” is, again, unspecified. Principle 14 establishes that:

*“States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health”*⁸³.

The Draft articles on Prevention of Transboundary Harm from Hazardous Activities from 2001 refer to a “significant harm” in various articles, but the commentary only specify that this expression should not be interpreted at the level of serious harm⁸⁴. The Draft Articles apply to the activities that risk causing significant transboundary harm and prescribe that a state shall take all possible measures to avoid this risk, such as ask for authorization, implement an assessment of risk, notify, and inform other parties. However, it also introduces a compromise allowing states to have space to bargain the

⁸¹ UNITED NATIONS. (1972). *Declaration of the United Nations Conference on the Human Environment*. p. 3.

⁸² UNITED NATIONS. (1972). *Declaration of the United Nations Conference on the Human Environment*. Principle 6, p. 4.

⁸³ UNITED NATIONS. (1992). *Report of the United Nations Conference on Environment and Development*. Rio de Janeiro. 3-14 June 1992. Rio Declaration on Environment and Development. Principle 14, p. 3.

⁸⁴ INTERNATIONAL LAW COMMISSION. (2001). *Draft articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*. Text adopted by the ILC at its fifty-third session and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/56/10). Commentary to Article 2. p. 152.

possible risk: it declares that states shall consider the “equitable balance of interests”⁸⁵. Proceeding with a further source, the Third UN Conference on Law of the Sea (1973–1982) prescribes at Article 162 that the Council shall:

*“Issue emergency orders, which may include orders for the suspension or adjustment of operations, to prevent serious harm to the marine environment arising out of activities in the Meat [and] disapprove areas for exploitation by contractors or the Enterprise in cases where substantial evidence indicates the risk of serious harm to the marine environment”*⁸⁶.

Relevantly, other sources of environmental law do not differentiate between harm and serious harm, demonstrating a lack of perspective on climate change and on the prevention of its aggravation. Agreements such as the Kyoto Protocol on Climate Change or the 1985 Agreement on the Conservation of Nature and Natural Resources consist in avant-garde legal instruments for the time being, but do not include differentiation between harm and massive damage. The Stockholm Convention on Persistent Organic Pollutants (POPs) has as objective the protection of “human health and the environment from persistent organic pollutants”⁸⁷ and introduces the element of duration, considered an element for the determination of a severe damage to natural resources, but it does not furtherly discuss the matter. Massive degradation of the environment is not subject of any article of the Paris Agreement adopted by the Conference of the Parties (COP) at its 21st session on 12 December 2015. It only establishes that the Warsaw International Mechanism for Loss and Damage should intervene in cases of “extreme weather events”⁸⁸, not considering artificial extreme damage. At Article 8.4.d. the Agreement establishes that the parties should cooperate positively against “events that may involve irreversible and permanent loss and damage”⁸⁹. The existence of regulation against “simple” environmental damage juxtaposed the lack of specific regulation against massive environmental harm can be argued to constitute a paradox.

⁸⁵ INTERNATIONAL LAW COMMISSION. (2001). *Draft articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*. Text adopted by the ILC at its fifty-third session and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/56/10). Article 9(2), p. 160.

⁸⁶ UNITED NATIONS. (1994). *United Nations Convention on the Law of the Sea*. Entry into force 16 November 1994. Article 162(w) e (x), p.89.

⁸⁷ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2001). *Stockholm Convention on Persistent Organic Pollutants (POPs)*. Adopted on 22 May 2001. Entered into force on 17 May 2004. Article 1, p. 6.

⁸⁸ UNITED NATIONS. (2015). *Paris Agreement*. Entered into force on 4 November 2016. Article 8(1), p. 12.

⁸⁹ UNITED NATIONS. (2015). *Paris Agreement*. Entered into force on 4 November 2016. Article 8(4)(d), p. 12.

2.2.2 Relevant customary law principles in cases of massive environmental harm

The second category of international law sources to be considered is the “international custom, as evidence of a general practice accepted as law”⁹⁰. The discussion on whether the obligatoriness of certain rules derives from customary law or from treaties or judicial decisions, is ever evolving, reflecting the nature of international law. The present section will list and briefly discuss principles regarding environmental degradation which are considered customary law. Considering their customary and general nature, they can be applied to massive damage to nature without the need of explicating a literal specification. Logically, if a source of law concerns the protection of the environment against degradation, it follows that it provides at least the same coverage from massive degradation. However, as previously argued, the need for further generally accepted principles covering major destruction comes from the higher degree of protection made necessary by the contingency. A limited number of principles represent the focus of academic and institutional discussion and, as such, will be presented in this section, starting from the precautionary principle.

According to the analysis from De Vido, “precaution” has been viewed by scholars either as a principle, an approach, or a broader strategy⁹¹. The concept, however, was first codified on an international level as a principle, at Principle 15 of the 1992 Rio Declaration⁹², which recites:

“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”⁹³.

The precautionary principle is generally accepted as custom⁹⁴ and prescribes precaution in acting on the environment “in spite of”⁹⁵ scientific uncertainty regarding the consequences of the given act in terms of environmental harm. In fact, the norm provides that uncertainty regarding the actual effects of a practice in terms of damage to the environment cannot be waived as a reason for harmful action

⁹⁰ COURT OF JUSTICE. (1945). *Statute of the Court of Justice*. Entry into force 24 October 1945. Art. 38.

⁹¹ DE VIDO, S. (2020). “Science, precautionary principle and the law in two recent judgments of the Court of Justice of the European Union on glyphosate and hunting management”*: *Scienza, principio di precauzione e diritto in due recenti sentenze della Corte di giustizia dell’Unione europea su glifosato e caccia di gestione*. DPCE Online. p. 1321.

⁹² *Ivi*, p. 1322-1323.

⁹³ UNITED NATIONS. (1992). *Report of the United Nations Conference on Environment and Development*. Rio de Janeiro. 3-14 June 1992. Rio Declaration on Environment and Development. Principle 15, p. 3.

⁹⁴ TROUWBORST A. (2002). “Evolution and Status of the Precautionary Principle in International Law”. in *The American Journal of International Law*. p. 284.

⁹⁵ JAECKEL, A. L. (2017). “The Precautionary Principle in International Law”. In *The International Seabed Authority and the Precautionary Principle*. Leiden, The Netherlands.

or inaction, especially when irreversible effects come into play. The concept is defined by the European Commission, and reported by De Vido, as a “risk management strategy,” useful when it is not possible to precisely define an environmental harm, but “there are reasonable grounds” to believe in the existence of a potential hazard⁹⁶. On the contrary, Boyle takes a more effectiveness-oriented approach in arguing that considering the principle as one of general value in the international legal system would benefit its use by domestic and international courts⁹⁷. The principle was recalled by the 1992 Convention on Climate Change, the 1992 Convention on Biological Diversity⁹⁸, the 2000 Cartagena Protocol on Biosafety⁹⁹ and several other agreements, together with national legislations, particularly in Europe and Australia. The principle was judicially invoked for the first time by Hungary in the Gabčíkovo-Nagymaros case before the ICJ in 1997¹⁰⁰. It is worth noting that it is not straightforward to determine who carries the burden of proof, since it has not been determined by the law and must be determined case by case¹⁰¹. The criticism around this approach derives from the different thresholds of “harm” and the selectiveness of the application¹⁰².

Secondly, the principle known as “good neighborliness,” or *sic utere tuo, ut alienum non laedas*, is considered as a customary law or even as a general principle of law¹⁰³, since it has been codified by several legal instruments. An example is Principle 2 of the Rio Declaration, under which states have the “*responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction*”¹⁰⁴. From this instrument, it also derives the duty of notification, consultation, negotiation and

⁹⁶ Communication from the European Commission on the precautionary principle (COM(2000) 1 final of 2 February 2000). 8. Via De Vido, S. (2020). “Science, precautionary principle and the law in two recent judgments of the Court of Justice of the European Union on glyphosate and hunting management”. p. 1324.

⁹⁷ BOYLE, A. (2007). “The Environmental Jurisprudence of the International Tribunal for the Law of the Sea”. In *The International Journal of Marine and Coastal Law*, 22(3). P. 375.

⁹⁸ CONVENTION ON BIOLOGICAL DIVERSITY. (1992). United Nations. Adoption in 1992. entered into force on 29 December 1993. Preamble. “Noting also that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat.”

⁹⁹ CARTAGENA PROTOCOL ON BIOSAFETY TO THE CONVENTION ON BIOLOGICAL DIVERSITY. (2000). Adopted on 29 January 2000. Entered into force on 11 September 2003. Article 1. “In accordance with the precautionary approach contained in Principle 15 of the Rio Declaration on Environment and Development, the objective of this Protocol is to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements.”

¹⁰⁰ DUVIC-PAOLI L. A. (2019). “Vigilance and Prevention: The Contribution of the Gabčíkovo-Nagymaros Judgment” in S Forlati, M Mbengue & B McGarry, *The Gabčíkovo-Nagymaros Judgment and its Contribution to the Development of International Law*. p. 3.

¹⁰¹ BIRNIE P., BOYLE A., AND REDGWELL C. (2009). *International Law and Environment*. Oxford University Press. p. 158.

¹⁰² *Ivi.*, p. 160.

¹⁰³ *Ivi.*, p. 137.

¹⁰⁴ UNITED NATIONS. (1992). *Report of the United Nations Conference on Environment and Development*. Rio de Janeiro. 3-14 June 1992. Rio Declaration on Environment and Development. Principle 2, p. 1.

environmental impact assessment, under principles 17, 18 and 19. Inspired by the Declaration, in 2001 the ILC issued the Articles on Transboundary Harm including similar obligations for states, enhancing the independence of the rule¹⁰⁵. Moreover, the commentary to the Articles explains that the obligation to take preventive or minimization measures shall be read as one of due diligence¹⁰⁶. Again, according to Birnie, Boyle, and Redgwell, the Articles refer both to “unlikely but disastrous accidents” and to “smaller scale harm”¹⁰⁷. Again, “significant” does not amount to “severe” or “serious,” but it is logical to argue that a harm such as the latter falls under the spirit of the law.

The so-called polluter-pays principle is developing a customary character, and it has also been inspired and developed in the context of the Rio Declaration, and before that by the Organization for Economic Cooperation and Development (OECD) in 1972¹⁰⁸. At principle 16 it is stated that:

*“The polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment”*¹⁰⁹.

The main problematic in implementing such a principle is that the responsibility for environmental degradation, especially pollution, is, at best, challenging to be established. A local practical implementation of this principle can be found in the Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004¹¹⁰ on environmental liability with regard to the prevention and remedying of environmental damage. Further principles such as the sustainable development principle and the intergenerational equity are consolidating and can hardly be considered as customary law as of today.

2.2.3 Crucial jurisprudence of international courts on environmental legal disputes

Judicial decisions of international courts constitute sources of law with high impact capacity on the development of IL, as they bring forward avant-garde and progressist interpretations, triggering

¹⁰⁵ INTERNATIONAL LAW COMMISSION. (2001). *Draft articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*. Text adopted by the ILC at its fifty-third session and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/56/10). Article 7, 8 and 9.

¹⁰⁶ *Ivi.*, commentary to Article 3, p. 154.

¹⁰⁷ BIRNIE P., BOYLE A., AND REDGWELL C. (2009). “Rights and obligations of states concerning protection of the environment”. *International Law and Environment*. Oxford University Press. p. 141-142.

¹⁰⁸ ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT COUNCIL. “Recommendation on Guiding Principles concerning International Economic Aspects of Environmental Policies”. Adopted on 26 May 1972. Annex, Paragraph A(a).

¹⁰⁹ UNITED NATIONS. (1992). Report of the United Nations Conference on Environment and Development. Rio de Janeiro. 3-14 June 1992. Rio Declaration on Environment and Development. Principle 16, p. 3.

¹¹⁰ EUROPEAN UNION. (2004). Directive 2004/35/CE of the European Parliament and of the European Council. 21 April 2004. “Environmental liability with regard to the prevention and remedying of environmental damage”. current consolidated version 26/06/2019

out-and-out cascade effect, especially when it comes to constitute binding precedents. Throughout their jurisprudence it is possible to grasp the state of the law on a matter at a certain point in time. The present section will briefly analyze the most important judicial decisions that consider serious or massive destruction of natural resources or that consolidate the principles of customary environmental law.

One of the most relevant decisions was taken by the ICJ in 1994, consequently to the General Assembly of the United Nations (UNGA) request for an Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons. Within the decision, the Court took the opportunity to affirm for the first time that:

*“[t]he general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment”*¹¹¹.

Further legal evolutions included in the Advisory Opinion will be analyzed in the section on the provisions of environmental protection during military conflicts. Similar conclusions were reached by the Permanent Court of Arbitration (PCA) in the context of its decision on the Iron Rhine Arbitration, according to which the state has the duty to “prevent, or at least mitigate”¹¹², significant harm to the environment. The innovative aspect of the opinion regards the view of the Tribunal according to which such a duty was already declared as a general principle of international law¹¹³. At paragraph 222, the award mentions “harm”¹¹⁴ without specifying the entity, while in paragraph 59 the damage to avoid is described as significant. The lack of specification in paragraph 222, however, is interpretable in good faith according to the spirit of the law as including, if not regarding, massive degradation of nature.

The urge to reconcile economic development and environmental necessities is underlined once again by the ICJ in the 1997 *Gabčíkovo-Nagymaros Case*¹¹⁵, based on Principle 13 of the Stockholm

¹¹¹ INTERNATIONAL COURT OF JUSTICE. (1996). *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*. 8 July 1996. p. 19-20.

¹¹² PERMANENT COURT OF ARBITRATION. (2005), “Award of the Arbitral Tribunal regarding the Iron Rhine (Ijzeren Rijn) Railway”. p. 28-29.

¹¹³ *Ivi.* p. 24-25.

¹¹⁴ *Ivi.* p. 90.

¹¹⁵ INTERNATIONAL COURT OF JUSTICE. (1997). *Judgement on Gabčíkovo-Nagymaros Project (Hungary v. Slovakia)*, 25th September 1997. p. 75.

Declaration¹¹⁶. This judicial case represents an early attempt to consolidate international environmental principles deriving mostly from agreements and to support legal innovations in the field of international responsibility of states under environmental law. The milestone case establishes for the first time a positive obligation for states to cooperate and progressively monitor the environmental consequences of projects or actions¹¹⁷. In his opinion, Judge Weeramantry, specified that the obligation must be considered as an erga omnes one¹¹⁸. As argued by Binder, in the present case the Court attempted an “accommodation of change”¹¹⁹ by means of interpretation of the treaties, with the aim of keeping the treaty alive despite changes and progresses of international law. Dupuy defines it as a redefinition of the meaning respecting the original nature of the treaty¹²⁰.

Finally, a further significant and determinant judicial case was the 2006 Pulp Mills Case before the ICJ, under the 1975 Statute of the River Uruguay. The Court reenforced the good neighbor principle in finding that:

*“A state is thus obliged to use all the means at its disposal in order to avoid activities which take place in its territory, or in any area under its jurisdiction, causing significant damage to the environment of another state”*¹²¹.

The obligation considered by the Court was one of due diligence, and not an absolute prohibition¹²². The due diligence shall be determined proportionally and appropriately to the risk of transboundary harm¹²³. Interestingly, the decision mentions the fact that what is considered as reasonable can change over time, on the basis of a renewed sensitivity and on technological improvements, defined as “best available techniques”¹²⁴. According to De Vido, flexible is also the instrument of the Environmental Impact Assessment, notwithstanding its compulsory character and the duty to

¹¹⁶ UNITED NATIONS. (1972). *Declaration of the United Nations Conference on the Human Environment*. principle 13, p. 4. The principle states that “In order to achieve a more rational management of resources and thus to improve the environment, States should adopt an integrated and co-ordinated approach to their development planning so as to ensure that development is compatible with the need to protect and improve environment for the benefit of their population.”

¹¹⁷ INTERNATIONAL COURT OF JUSTICE. (1997). *Judgement on Gabčíkovo-Nagymaros Project (Hungary v. Slovakia)*. 25th September 1997. p. 64-65.

¹¹⁸ INTERNATIONAL COURT OF JUSTICE. (1997). *Judgement on Gabčíkovo-Nagymaros Project (Hungary v. Slovakia)*. 25th September 1997. Separate Opinion of Vice-President Weeramantry, Section C(c), p. 114-115.

¹¹⁹ BINDER C. (2024) “Change and the Law of Treaties: The accommodation of change under general international law and in specific treaty regimes”. ESIL Reflections. Bundeswehr University Munich and University of Vienna. Volume 13. Issue 2. 1st February 2024. Section 4, p. 9.

¹²⁰ DUPUY P. (2011). “Evolutionary Interpretation of Treaties: Between Memory and Prophecy”. in E Cannizzaro (ed), *The Law of Treaties beyond the Vienna Convention*. p. 125.

¹²¹ INTERNATIONAL COURT OF JUSTICE. (2010). *Judgment on Pulp Mills on the River Uruguay (Argentina v. Uruguay)*. 20th April 2010. p. 46.

¹²² *Ivi.*, p. 45

¹²³ *Ivi.*, p. 69

¹²⁴ *Ivi.*, p. 78

consult public authorities while carrying it out¹²⁵. The Assessment passed from constituting a simple element of due diligence in the interaction between states to an essential measure to assure a sustainable paradigm between human rights and environmental needs¹²⁶. Concluding, the Court underlines the importance of sustainable development¹²⁷, possible only if resources are granted protection when shared.

As argued above, the jurisprudence of international courts is the most advanced and critical source of law to consider in order to identify a path or tendency of an ever-evolving subject such as international law. The changes in interpretations over time allow change to happen faster and reflect new sensitivity. Even though the cases mentioned above do not specifically regard episodes of massive destruction of the environment, they are relevant for the purposes of the present discussion as they constitute consolidation or proof for the existence of customary principles or general principles of international law and represent precedents and progresses towards considering international legal responsibility of states for damage to the environment.

2.3 Existing consequences of peacetime massive environmental destruction: state responsibility and law of the treaties

Under international law, the legal consequences for massive environmental destruction during peacetime can only be claimed against states or international organizations as breaches international obligations deriving from the law of the treaties, customary law or general principles of law, and they can entail international responsibility of states if they constitute a wrongful act, according to the rules on the matter provided by the Draft Articles on State Responsibility of the ILC of 2001¹²⁸. Differently, a breach of a treaty does not always entail the responsibility of states. As a consequence, the legal implications of a breach of a treaty under the Vienna Convention on the Law of the Treaties that do not entail the state responsibility will not be analyzed since they differ case by case according to the treaty's provisions. The international criminal responsibility, instead, can solely be waived against natural persons who allegedly committed an international crime. However, as we have anticipated, a crime of massive destruction of the environment has not been provided for by the international criminal system yet. Therefore, the current international legal system can intervene to

¹²⁵ DE VIDO S. (2017). "General Principles and the Duty to Undertake an EIA: Relationship, Requirements and Practice".

¹²⁶ INTERNATIONAL COURT OF JUSTICE. (2010). *Judgment on Pulp Mills on the River Uruguay (Argentina v. Uruguay)*. 20th April 2010. P. 78.

¹²⁷ *Ivi.*, , p. 64

¹²⁸ INTERNATIONAL LAW COMMISSION. (2001). *Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries*. Yearbook of the ILC. Vol. II, Part Two.

sanction massive harm to nature merely at the state responsibility level. The present section will initially present the current regime of state responsibility under international law while finally considering states' obligations and responsibilities deriving particularly from multilateral environmental law.

2.3.1 General rules of international responsibility

The regime of international responsibility of states is regulated by the 2001 ILC Draft Articles on the Responsibility of States for Internationally Wrongful Act¹²⁹. The responsibility of states is entailed for every internationally wrongful act. To be such, an act must meet two conditions: it must be attributable to the state, and it must constitute a breach of international obligation, under whichever source of international law. Firstly, in order to meet the former requirement, the conduct must be committed by a *de jure* organ according to internal law, a *de facto* organ, an individuality under the effective control of the state, organs at the disposal of the state, organs acting within the functions of the state in absence or default of the official authority, or the conduct must be recognized a posteriori from the state. Secondly, to meet the latter requirement, the state needs to bound to the obligation at the time of the act and none of the following situations need to occur, having the effect of excluding the responsibility: the state subjected to the act expresses consent to the conduct, the act consists in a lawful self-defense measure in conformity with the UN Charter, the act is conceived as a countermeasure, it is caused by *force majeure*, it was not avoidable under a situation of distress or it would cause "greater peril", or if the conductor found itself in a situation of necessity. All the listed circumstances preclude the wrongfulness of the conduct considered, which would not, hence, entail the international responsibility of the state.

The Draft Articles describe the consequences of the emergence of the responsibility of states in Chapter I, the General Principles, nowadays considered as customary rules. Once the responsibility of the state for a wrongful act is ascertained, the state responsible has the continued duty of performance of the breached obligation, together with the duty to cease the wrongful conduct and not to repeat it. In addition, the state responsible shall make complete reparation for the breach and the consequent material and moral damage. The reparation may be not only owed to another state, but also to a plurality of states or the international "community as a whole"¹³⁰. Aiming at complying with this obligation, the state can be required to return the affected elements to the original

¹²⁹ *Ibid.*

¹³⁰ INTERNATIONAL LAW COMMISSION. (2001). *Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries*. Yearbook of the ILC. Vol. II, Part Two. Commentary to Article 1. p. 33.

conditions or restore those conditions, to pay compensation for the damage considering the financial damage and the future losses, to provide satisfaction (acknowledgement, expression of regret, apology or other) or to combine such forms of reparation. Interestingly for our purposes, a state can invoke the responsibility of another state if the breach affects either the state itself, or a group of states of which it is part, or the community as a whole (if the breach affects it). Concluding, when a breach is serious because the failure to comply to the obligation is gross or systematic, in addition to the previous provisions, states must cooperate to bring to an end the behavior and must not recognize any situation that derives from unlawful actions.

2.3.2 Environmental obligations and responsibilities of states under international law

The consequences of wrongful acts under environmental law obligations attributable to a state entail the responsibility of states in accordance with the regime presented in the previous section. It is now appropriate to present duties and responsibilities of states under general environmental law. As previously discussed, responsibility would arise because of the breach of customary principles, such as the precautionary principle, or treaty obligations. Birnie, Boyle and Redgwell¹³¹ affirm that within environmental law, the concern is not only verified damage but also failed protection or prevention of transboundary harm.

According to the 2001 ILC Draft Articles on the Prevention of Transboundary Harm, states have the obligation to prevent and minimize the risk of significant transboundary harm¹³². Moreover, states must implement monitoring mechanisms¹³³, cooperate in good faith¹³⁴ and, if needed, seek assistance¹³⁵ to comply with such an obligation. The requirement of authorization¹³⁶ is a right of the state under which jurisdiction a project is being implemented, and such authorization must be grounded on an assessment of risks¹³⁷. In the sense of the Articles, the prevention of harm is a positive obligation of the state, meaning that the state entity must act in the sense of preventing harm with suitable measures, not only verifying that at the present conditions no harm is likely to

¹³¹ BIRNIE P., BOYLE A., AND REDGWELL C. (2009). "Rights and obligations of states concerning protection of the environment". *International Law and Environment*. Oxford University Press. "Rights and obligations of states concerning protection of the environment". p. 533.

¹³² INTERNATIONAL LAW COMMISSION. (2001). *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*. Adopted by the ILC at its fifty-third session. Commentary to Article 3. p. 154.

¹³³ *Ivi*. Commentary to Article 3. p. 155.

¹³⁴ *Ivi*. Article 4, p. 155.

¹³⁵ *Ivi*. Commentary to Article 4. p. 156.

¹³⁶ *Ivi*. Article 6, p. 156.

¹³⁷ *Ivi*. Article 7, p. 156.

happen. However, it is worth noting that even a significant damage or risks of damage to the environment perpetrated by a state within its own borders are not subject to these provisions.

Regarding the attribution of responsibility of a state for wrongful conduct, the international responsibility regime prescribes that the conduct of a private individual can be attributed to the state only in extremely specific cases. For this reason, the conduct of private companies without any connection to the state, in the sense of Chapter II of the Draft Articles on State Responsibility, cannot be attributed to the state and the state cannot be held responsible for the conduct. However, the state can be held responsible for the breach of positive procedural and substantive obligations of prevention, cooperation, notification, and assessment of the risks, as the Pulp Mills Case partly demonstrates¹³⁸. The International Tribunal for the Law of the Sea (ITLOS) reached the same conclusion, when it declares that State Parties to the United Nations Convention on the Law of the Sea (UNCLOS) have a specific obligation:

*“under article 194, paragraph 1, of the Convention to take all necessary measures to prevent, reduce, and control marine pollution from anthropogenic GHG emissions and to endeavor to harmonize their policies in this connection”*¹³⁹.

In addition, the ITLOS clarifies that, under the UNCLOS, states have a “stringent” duty of due diligence when dealing with the prevention of emissions¹⁴⁰.

Finally, in 2018 the ICJ adopted a landmark decision in the case of *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)*. Costa Rica raised the case assessing procedural and substantial violations. According to Costa Rica, Nicaragua violated general international law providing an obligation of consultation, notification, and execution of an impact assessment. Concerning the substantial violations, Costa Rica finds that Nicaragua has breached its “territorial sovereignty,” and it has violated the 1888 Cleveland Award by dredging, diverting or alter the course of the San Juan River¹⁴¹. Marking a major progress, within the merits of the judgement, the Court firstly assessed the environmental degradation, specifically the loss of the

¹³⁸ INTERNATIONAL COURT OF JUSTICE. (2010). *Judgment on Pulp Mills on the River Uruguay (Argentina v. Uruguay)*. 20th April 2010. Paragraph 157, p. 70

¹³⁹ INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA. (2024). *Advisory Opinion in case No. 31. Request submitted to the Tribunal by the commission of small island states on climate change and international law*. 21 May 2024. paragraph (c), p. 2.

¹⁴⁰ *Ivi*. Paragraph 243, p. 88.

¹⁴¹ INTERNATIONAL COURT OF JUSTICE. (2015). *Advisory Opinion on Certain Activities Carried Out by Nicaragua in the Border Area and Construction of a Road in Costa Rica along the San Juan River (Costa Rica v. Nicaragua)*. Judgement of 16 December 2015. p. 696.

capacity of the natural resources to “provide goods and services,” and secondly, it determined monetary compensation and restoration obligations for Nicaragua¹⁴².

In sum, the system of responsibility of states for breaches of environmental international law does not prescribe unique consequences or responsibilities for massive damage to the environment. The obligations deriving from general or customary international law concern mainly positive due diligence and preventive obligations. Logically, the responsibility of a state can arise in cases of major destruction of the natural resources even if it did not act causing the destruction, but it did not act to prevent it either.

¹⁴² INTERNATIONAL COURT OF JUSTICE. (2015). *Advisory Opinion on Certain Activities Carried Out by Nicaragua in the Border Area and Construction of a Road in Costa Rica along the San Juan River (Costa Rica v. Nicaragua)*. Judgement of 2 February 2018. p. 28.

3 Wartime system of environmental protection from massive environmental degradation: states' obligations vs. criminal responsibility

To this day, a large portion of the analysis in the realm of international relations continues to be rooted in and shaped by the classic realist approach, which views the international system as anarchic and emphasizes the inherent need to militarize the state. The traditional dependency on militarization of security, or in some cases, on securitization of the military, has represented the fulcrum of states' political evolution. In other words, security and military had been articulated and approached as complementary and indissolubly linked. Nevertheless, the traditional approach contains an intrinsic paradox that has begun to emerge and to be analyzed mainly after the outbreak of the Vietnam War. Scholars and researchers have recently provided brand new connotations of security, which are not conceived only in terms of military capabilities, while the military is considered in a position of antagonism regarding security itself. A relevant instance is the Environmental Change and Human Security research stream¹⁴³ and the new holistic interpretation focusing on human security¹⁴⁴. The latter is conceived as an ever-evolving process. The process includes the relational dimension between human beings themselves and the natural environment as the basis for security. The focus shifts from the security of the state to the security of individuals and their basic needs¹⁴⁵. A 1998 UN Development Programme report, the Human Development Report, formulates the concept as involving "safety from such chronic threats as hunger, disease, and repression. It also involves protection from sudden and hurtful disruptions in people's daily lives-in the home, workplace, and community"¹⁴⁶. The report adds on this in stating: "(w)hether it is pollution, degradation or waste, environmental damage has serious consequences for human health, livelihoods and human security"¹⁴⁷. According to this progressist approach, human security and the very existence of humanity are primarily threatened by environmental degradation and all the consequences it entails from an economic, political, and social perspective. In brief, according to this holistic approach, the above-referred paradox verifies because the very military that would

¹⁴³ IDE, T. ET AL. (2023). "The Future of Environmental Peace and Conflict Research". *Environmental Politics*. pp. 1082.

¹⁴⁴ INTERNATIONAL PEACE BUREAU. (2002). "The Military's Impact on The Environment: A Neglected Aspect Of The Sustainable Development Debate, A Briefing Paper for States And Non-Governmental Organisations". p. 2-3.

¹⁴⁵ DAUDY, M. (2021). "Rethinking the Climate–Conflict Nexus: A Human–Environmental–Climate Security Approach". *Global Environmental Politics*. P. 1-22.

¹⁴⁶ UNITED NATIONS DEVELOPMENT PROGRAMME. (1998). "Human Development Report". Oxford University Press. pp. 24-25.

¹⁴⁷ *Ivi*. p. 79.

be supposed to provide security actually constitutes a serious threat to the environment, and as such, to human security. Finally, according to the Decolonizing Environmental Security theory¹⁴⁸, the concept of security and, in particular of environmental security, must be politicized and separated by the Western perspective of modernity and capitalism. Only in this way, it will be possible to “disrupt oppressive, extractive and exploitative,” and I would add “conflictual,” “powers”¹⁴⁹. The present chapter will then display (1) how military conflicts, as well as unilateral military actions, are able to cause “pollution, degradation or waste”, or much more severe damage to the environment and (2) the existing system of legal protection of environment during armed conflicts, under both the regime of state responsibility and criminal law.

For what concerns environmental justice, it needs to be underlined that military-related environmental damage entails the same effects pattern as other forms of environmental degradation in terms of mostly affected countries. Despite this communality of results, the dynamics underneath them can differ. In particular, the effects of climate change, for example, have been proved to particularly affect those countries that are less responsible for it¹⁵⁰. This was one of the conclusions reached by the UNDP in its 2024 report comparing the Index of Planetary Pressures with the number of additional extreme temperature days above the 1986–2005 average. The reason behind this environmental injustice can mainly be traced to the biological and geographical composition of our planet, but also to the efficiency of governing authorities. When it comes to massive environmental damage deriving from armed conflict, the most affected countries are again the least structuralized countries, but the reason for this injustice differs significantly from the fatalistic view of the former case. In fact, the least structuralized countries, usually defined as “developing,” are more harshly affected by multidimensional environmental damage also because those are the states more subjected to and exposed to military conflicts. In fact, a vicious circle takes place under which the originally most vulnerable country engages in a military conflict that causes further social, political, economic, and environmental degradation often takes place. Climate Change and Conflict theory partially explains this maintaining that conflicts can emanate from, be influenced, or enhanced by environmental tensions and changes¹⁵¹. As professor Sjöstedt poses it, climate acts as a “threat-multiplier”¹⁵² of conflicts in vulnerable areas. Conflict-related environmental harm differs from

¹⁴⁸ IDE, T. ET AL. (2023). “The Future of Environmental Peace and Conflict Research”. *Environmental Politics*. pp. 1094-1097

¹⁴⁹ *Ivi*. p. 1080.

¹⁵⁰ UNITED NATIONS DEVELOPMENT PROGRAMME. (2024). “Human Development Report 2023-24, Breaking the gridlock: Reimagining cooperation in a polarized world”. New York. 13th March 2024. p. 37-38.

¹⁵¹ VON UEXKULL, N., & BUHAUG, H. (2021). “Security implications of climate change: A decade of scientific progress”. *Journal of Peace Research*. p. 4.

¹⁵² SJOSTEDT B. (2020). “The Role of Multilateral Environmental Agreements, a reconciliatory Approach to Environmental Protection in Armed Conflict”. *Studies in International Law*. Hart Publishing. p.10.

general environmental degradation also because the latter is fundamentally and intrinsically transnational, while the former is characterized by a more circumscribed geographical area, even if of considerable and non-negligible dimensions. The “Securitization of the environment” approach helps us complete the framework of the dynamics between environment and war by theorizing that natural resources would be used as a weapon in the context of conflicts.

Notwithstanding their merits, these approaches address mainly a monodirectional analysis of the interaction between environment and conflict, in particular the role of environment in generating or enhancing conflicts. However, the nexus between environmental damage and armed conflict is considered as bidirectional. This section will make the case that conflicts are also “environmental-threat multipliers” for countries that are already vulnerable to environmental degradation and change. For this reason, the present section will focus on the opposite direction, i.e., how military conduct influences the environment, presenting material cases and instances. Instances, that will be here analyzed, can be found in the Sub-Saharan region, as well as in the Minor Asia, Arab Peninsula and in South America.

3.1 Environmental damage from military conflicts

Environmental damage from military conflict is multidimensional and involves multiple cyclical stages of the military machine, from the production of weapons components to their use and disposal. The present chapter presents a non-exhaustive categorization of military-related environmental damage which does not aim at encompassing the entirety of those damage because of their enormous vastity, multilevel nature and continuous evolution. Nonetheless, by means of international organizations’ reports and professional academic research regarding empirical cases, the section will display the most diffused and impactful war-related environmental issues concerns, namely: pollution (both as a result of a military action and from the production and disposal of weaponry), deforestation, loss of biodiversity, conflict-related population movements, freshwater issues, soil modifications and erosion. The analysis will also serve itself of the useful distinction proposed by professor Sjöstedt in terms of purpose of the military conduct. She distinguishes four categories of environmental harm from conflicts¹⁵³: damage from directly targeting the environment, collateral but foreseeable damage, weaponization of the environment, and knock-on effects. The first and the third category could appear to resemble the same case, while they differ for the scope

¹⁵³ SJOSTEDT B. (2020). “The Role of Multilateral Environmental Agreements, a reconciliatory Approach to Environmental Protection in Armed Conflict”. *Studies in International Law*. Hart Publishing. p.10-11.

of the target to the environment. In the case of a direct target, the aim is to destroy natural resources or supplies to deprive the enemy of such a resource. The weaponization is, instead, the manipulation of natural forces to create adverse effects on the enemy, such as the installation of bombs underwater to create tsunamis. The concept of knock-on effects will also be useful for the purposes of this analysis and, therefore, here worthy of explanation. The knock-on effects are tangent aspects to the conflict in general but can find their cause in phenomena other than military conflicts. They can entail three aspects: the lack of environmental legislation that increases exploitation, the collapse of governmental structures causing failure to handle basic services, and displaced persons forced to engage in unsustainable exploitation of natural resources¹⁵⁴.

3.1.1 Military-related pollution of air, soil, or water

According to the UN Glossary of Environment Statistics, pollution is defined as the “presence of substances and heat in environmental media (air, water, land) whose nature, location, or quantity produces undesirable environmental effects”¹⁵⁵. Armed conflicts play a considerable role in increasing the damaging substances spread in the environment, and they do so in several ways: from the production of military equipment and weaponry to their use, and finally to the eventual disposal or, better, non-disposal of weaponry. Pollution verifies mostly in terms of collateral damage, but it is not rare that the environment is directly targeted by military forces with the aim of polluting it. Concerning indirect polluting effects, Jorgenson and Clark demonstrated that “military expenditures as percent of total gross domestic product and military labor as percent total labor both have positive and statistically significant effects on emissions”¹⁵⁶. They also interestingly conclude that the effect of military expenditures on carbon emissions is more significant in nations partes to the Organization for the Economic Cooperation and Development (OECD) than in non-OECD ones¹⁵⁷. Bradford and Stoner reach similar conclusions¹⁵⁸ in stating that countries with a higher proportion of GDP allocated for military purposes have higher per capita CO₂ emissions, but the reason for this, they claim, is not determined. Environmental damage can also be defined by the very nature of weapons. The proportion of the phenomenon is better frameable considering a 2022 study that concludes that

¹⁵⁴ SJOSTEDT B. (2020). “The Role of Multilateral Environmental Agreements, a reconciliatory Approach to Environmental Protection in Armed Conflict”. *Studies in International Law*. Hart Publishing. p. 20.

¹⁵⁵ UNITED NATIONS STATISTICS DIVISION. (1997). “Glossary of Environment Statistics”.

¹⁵⁶ JORGENSON A., BRETT C. (2016). “The Temporal Stability and Developmental Differences in the Environmental Impacts of Militarism: The Treadmill of Destruction and Consumption-Based Carbon Emissions”. *Sustainability Science*. p. 511.

¹⁵⁷ *Ivi*, p. 512.

¹⁵⁸ BRADFORD, J. H., AND STONER, A. M. (2017). “The Treadmill of Destruction in Comparative Perspective: A Panel Study of Military Spending and Carbon Emissions, 1960-2014”. *Journal of World-Systems Research*. p. 319.

if the military were a nation, it would be the fourth polluter at a global level, before Russia¹⁵⁹. Again, the Ratio of carbon footprint to operational emissions is higher in the military sector than in infrastructure and transport sectors¹⁶⁰. Nuclear weapons, for instance, entail environmental risks in every phase of production such as the uranium milling, uranium enrichment, plutonium production, fuel reprocessing, weapons manufacture, and handling, as well as dismantling and final disposal¹⁶¹. The most damaging phase is the testing phase, regardless to where it takes place¹⁶². Concerning, instead, direct and intentional damage to the environment, one of the most infamous cases of pollution of the natural resources during military actions was reported during the Gulf War between 1988 and 1991.

The Persian Gulf has been the theatre of “one of the worst man-made disasters of all times”¹⁶³, at least up to that historic moment, both in Kuwait and Iraq territories. The variety of environmental damage attributable to the conflict is wide: from the chemical-caused deforestation to the risk of desertification. However, one aspect is peculiar and unprecedented to this conflict: the pollution deriving from the targeting of oil industry infrastructures and oil wells. A 2003 UNEP Desk Study¹⁶⁴ highlights the phenomenon gathering the data mainly from previous UN bodies’ reports and reports from other international organizations, such as Greenpeace the AMAR Foundation. Both on the Iraq and Kuwaiti’s territories oil refineries and wells were targeted and set on fire in an attempt, allegedly, of limiting the power and financial supplies of the opponent¹⁶⁵. However, Kuwait claimed that the conduct was planned to easier the occupation, not for military scopes¹⁶⁶. Several oil refineries, namely, the Southern Oil Company, Basrah refinery, North Oil Company, Dawrah/Dora Refinery and Bayji/Beiji Refinery were target¹⁶⁷. On Kuwaiti territory, the Iraqi forces opened forcedly seventy-six oil wells, causing an unprecedented loss of oil into the territory¹⁶⁸. Ninety-nine oil pools were damaged realizing the loss of about sixty million barrels of oil¹⁶⁹. This enormous amount of oil ended up creating oil lakes on an area of about forty-nine km², penetrating the soil for

¹⁵⁹ PARKINSON S. COTTRELL L. (2022). “Estimating the Military’s Global Greenhouse Gas Emissions”. p. 10.

¹⁶⁰ *Ivi*, p. 7.

¹⁶¹ JHA U. C. (2013). *Weapons of War: Environmental Impact*. Chapter 2A.

¹⁶² *Ibid*.

¹⁶³ OMAR S. ET AL. (2000) “The Gulf War impact on the terrestrial environment of Kuwait: an overview”, in *The Environmental Consequences of War: legal, economic, and scientific perspectives*. Edited by Jay E. Austin and Carl E. Bruch. Cambridge University Press. p. 317.

¹⁶⁴ UNITED NATIONS ENVIRONMENT PROGRAMME. (2003). "Desk study on the environment in Iraq". Knowledge Repository. pp. 56-69.

¹⁶⁵ *Ibid*.

¹⁶⁶ ROBERTS A. (1992). “Environmental Destruction in the 1991 Gulf War”. *International Review of the Red Cross*. p. 542.

¹⁶⁷ *Ivi*, p. 64.

¹⁶⁸ UNITED NATIONS ENVIRONMENT PROGRAMME. (2003). "Desk study on the environment in Iraq". Knowledge Repository. p. 65.

¹⁶⁹ *Ibid*.

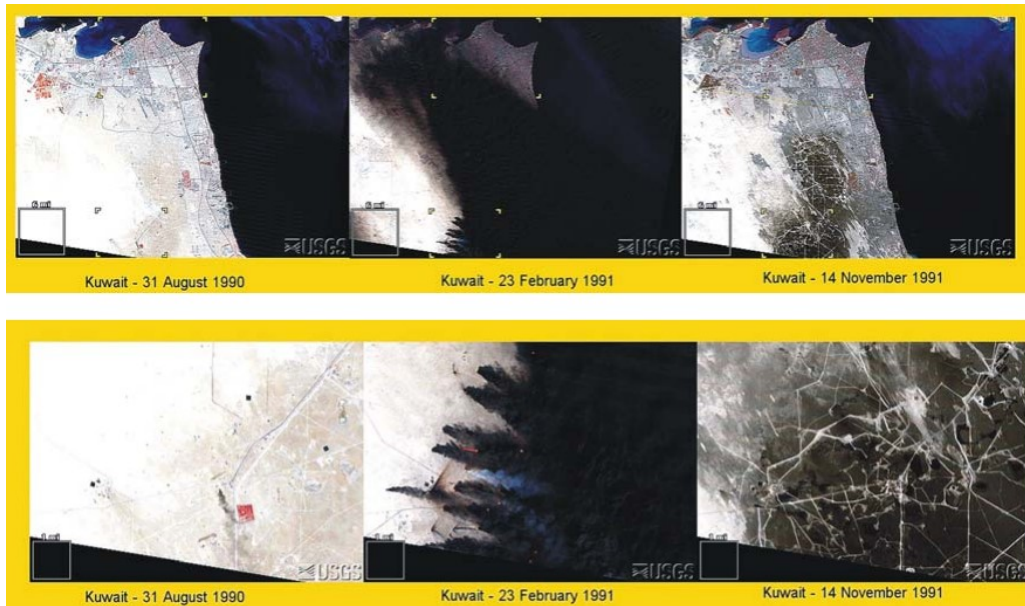


Figure 1 Dispersion of smoke and visible ground effects resulting from burning wells

more than one meter¹⁷⁰, and polluting it with substances such as mercury, benzene, toluene, ethylbenzene, xylenes (BTEX) and polyaromatic hydrocarbons (PAHs)¹⁷¹. What is more, under a major “carefully prepared”¹⁷² project, the Iraqi forces set on fire more than 600 oil wells. The fire lasted about two months and spread for “several hundreds of kilometers”¹⁷³. About 500,000 metric tons of pollutants such as Sulphur dioxide, carbon monoxide, benzopyrene, PAHs and dioxins were generated and spread¹⁷⁴. Adding on this, 6-8 million oil barrels were introduced in the Gulf waters from vessels and terminals intentionally¹⁷⁵. The oil slick was the largest of history to date, covering an area of nearly 900km²¹⁷⁶ causing the death of about 30,000 marine birds and the degradation of 50% of the coral reef. The marine environment was noticeable even more on the Saudi Arabian coast. A further consequence can be found on the vegetation of Kuwait, the majority of which was destroyed or severely damaged¹⁷⁷ and was not able to seed¹⁷⁸. In total about 1.25 million m³ of oil has been sedimented in the area¹⁷⁹. The most impressive data regards the carbon dioxide emission:

¹⁷⁰ GERGES M. A. (1993). “On the impacts of the 1991 Gulf War on the environment of the region: General observations”. *Marine Pollution Bulletin*. Volume 27, p. 313.

¹⁷¹ UNITED NATIONS ENVIRONMENT PROGRAMME. (2003). "Desk study on the environment in Iraq". Knowledge Repository. p. 65.

¹⁷² ROBERTS A. (1992). “Environmental Destruction in the 1991 Gulf War”, *International Review of the Red Cross*. p. 541.

¹⁷³ *Ibid.*

¹⁷⁴ *Ibid.*

¹⁷⁵ *Ivi.* p. 67.

¹⁷⁶ *Ibid.*

¹⁷⁷ GERGES M. A. (1993). “On the impacts of the 1991 Gulf War on the environment of the region: General observations”. *Marine Pollution Bulletin*. Volume 27, 1993, p. 312.

¹⁷⁸ UNITED NATIONS ENVIRONMENT PROGRAMME. (2003). "Desk study on the environment in Iraq". Knowledge Repository. p. 68.

¹⁷⁹ *Ibid.*

the total emission amounted approximately to the 1.5% of the worldwide annual emissions from fossil resources burning¹⁸⁰. Declarations from the United States Department of Energy about the alleged exaggeration of independent experts on the matter¹⁸¹, proved to be wrong.

3.1.2 Military-related deforestation

According to a recent study published on the journal *Science of the Total Environment* in March 2024 deforestation (34%) is the most reported adverse effect of war¹⁸². Notably, the deforestation effect does not derive solely from bombings and combats but often initiates with training and weaponry testing¹⁸³. Deforestation can verify either as an unintended side-effect of military conduct or as an intentional scope of a military act¹⁸⁴. The distinctive feature of deforestation impacts is that it commonly has escalating effects on other environmental damage, such as soil erosion, extreme floods, and water contamination¹⁸⁵. Moreover, a defoliated land leads to a scarcity of fundamental resources for the livelihood of the area, such as fruits, wood and shelter, likely increasing the probability of tensions and conflicts. The ecosystem is essentially modified by defoliating activities, causing unbalance in bordering natural structures and loss of biodiversity¹⁸⁶.

The most (in)famous and reported case of war-related deforestation verified during the Vietnamese conflict between 1955-1975 following the chemical defoliation of about 12,000 square kilometers of land¹⁸⁷. The case will be touched upon in Chapter 4, given its strict relation with the birth of the concept of ecocide. A further striking, albeit less acknowledged, case is the Afghan case. In Afghanistan forests serve scopes of primary importance for the livelihood of the nation, providing fuelwood, timber, subsistence products and medical herbs¹⁸⁸. Wooded lands are essential to moderate the extreme climate conditions, in particular to limit the adverse effects of powerful rainfalls and to maintain water flows in the dry season, permitting cultivators to continue their activities. A UNEP report distinguishes three types of forests originally present in the country: mixed oak and conifers forests (4.5% of the land area), open woodlands with pistachio and almond

¹⁸⁰ *Ibid.*

¹⁸¹ ROBERTS A. (1992). "Environmental Destruction in the 1991 Gulf War", *International Review of the Red Cross*. p. 539-540.

¹⁸² MEAZA H. ET AL. (2024). "Managing the environmental impacts of war: What can be learned from conflict-vulnerable communities?". *Science of The Total Environment*. Volume 927. pp. 3-4, 10.

¹⁸³ *Ibid*, p. 4.

¹⁸⁴ JHA, U. (2014). *Armed Conflict and Environmental Damage*. 1st ed. VIJ Books. p. 23.

¹⁸⁵ *Ibid*, pp. 78-81.

¹⁸⁶ *Ibid*, p. 81.

¹⁸⁷ MEAZA H. ET AL. (2024). "Managing the environmental impacts of war: What can be learned from conflict-vulnerable communities?". *Science of The Total Environment*. Volume 927. pp. 4.

¹⁸⁸ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2003). "Post-Conflict Environmental Assessment". p. 63.

(48% of land area), and riparian forests¹⁸⁹. The report also underlines that the causes of the degradation of woodlands cannot be attributed only to the military activities on the country, but it is generally the human occupation that undermined their proliferation¹⁹⁰. However, up until the middle 20th century the north, central and eastern parts of the country were covered by extensive forests¹⁹¹. The environmental destruction of the country began with the Soviet invasion, with the elimination of vegetation in the Kabul province and the Parwan Province and damaging bombing on forests of Paktia and Kunar¹⁹². In ten years, the percentage of woodland area passed from 3.4% to 2.6%¹⁹³. The country would have to experience about 30 years of tensions, conflicts, and mismanagement of the natural resources.

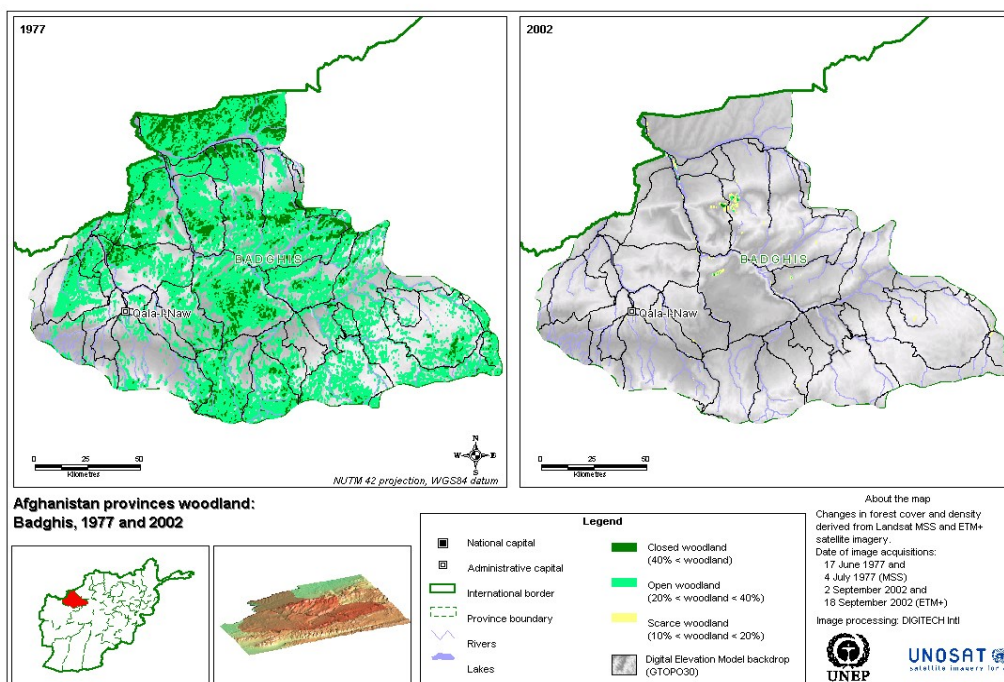


Figure 2 Badghis province in Northern Afghanistan comparison between 1977 and 2002.

The province of Badghis, in the Northern region of the country is a striking and devastating instance of the deforestation occurred. It constituted an essential source of livelihood for the population, providing nuts, wood for energy needs and grazing soil for breeding activities. In the region, according to forest officers, an amount between 50 and 70% of the pistachio plants have been eliminated during the war period¹⁹⁴. The density of woodlands was detected from UNEP by means

¹⁸⁹ *Ibid*, p. 64.

¹⁹⁰ *Ibid*, p. 65.

¹⁹¹ JHA, U. (2014). *Armed Conflict and Environmental Damage*. 1st ed. VIJ Books. p. 77.

¹⁹² JHA, U. (2014). *Armed Conflict and Environmental Damage*. 1st ed. VIJ Books. p. 107.

¹⁹³ FORMOLI, T.A. (1995). "The Impact of the Afghanistan-Soviet War on Afghanistan's Environment". Vol. 22. *Environmental Conservation*. p. 66-69.

¹⁹⁴ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2003). "Post-Conflict Environmental Assessment". p. 64

of satellite images and analyzed considering a period from 1977 to 2002. Initially the density of plants ranged from 40 to 100 trees per hectare, while in 2002 the density could not be determined, either because of a total deforestation or a density significantly lower than forty trees per hectare¹⁹⁵. Deforestation is reported to be the result of a combination of factors related to war, such as the combats activities, together with mismanagement due to the lack of effective government and an exploitation of the population.

3.1.3 Military-related loss of biodiversity

The biodiversity loss as a result of military conflicts is frequent and variable in dimension and seriousness, while complicated to be established with certainty. Considering biodiversity as “the variety of life on Earth and the natural patterns it forms”¹⁹⁶, studies have shown that countries with a higher degree of biological variety are also the ones most likely to be subjected to wars¹⁹⁷. A loss of biodiversity occurs when a certain natural species is not able to reproduce anymore, leading to its extinction

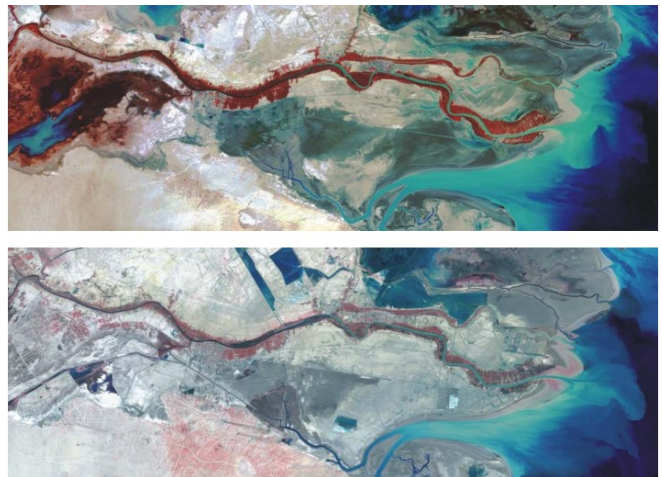


Figure 3 Shatt al-Arab, Iraq. 1975-2002 Date Palm loss

in the planet or in a specific area. Civil conflicts and military activities have also proved to constitute an essential threat to ecosystems on account of the typical absence or ineffectiveness of the government in countries subjugated to these conflicts and vacuums in the regulation of them as opposed to conventional wars. Biodiversity suffers from a multiple level of threats and behavior in the distinct phases of the conflict, from pollution, to contamination, to physical eradication, from habitat alteration to undermanagement or exploiting extraction of natural resources¹⁹⁸. Several cases can be presented to demonstrate the impact of wars on biodiversity, but one stands for all.

The Democratic Republic of Congo (DRC) is the African country with the highest rate of biological species and second in terms of size of tropical forest after the Amazon¹⁹⁹. At global level,

¹⁹⁵ *Ibid*, pp. 64-65.

¹⁹⁶ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). UNEP and Biodiversity. Briefing note, published in September 2020 to coincide with the 75th session of the United Nations General Assembly.

¹⁹⁷ HANSON, T. (2011). “War and Biodiversity Conservation: The Role of Warfare Ecology”. NATO Security through Science Series C: Environmental Security.

¹⁹⁸ RIST L. ET AL. (2024). “Biodiversity, peace and conflict: understanding the connections”. Volume 68. p. 57.

¹⁹⁹ JHA, U. (2014). *Armed Conflict and Environmental Damage*. 1st ed. VIJ Books. p. 118.

the countries' biodiversity ranks at the fifth position²⁰⁰. Today, 190 species fall under the classification of “critically endangered” species²⁰¹. The white rhinoceros and mountain gorillas are under threat of extinction²⁰². Moreover, DRC hosts five World Heritage Sites under the protection of the UNESCO World Heritage Centre and its programme Biodiversity Conservation in Regions of Armed Conflict²⁰³, but most of these protected parks are situated in the east of the country, where the civil conflict is more intense²⁰⁴. Moreover, parks are often object of territorial disputes and create antagonism between the authorities and local communities²⁰⁵. The civil conflict has the main consequence of maintaining a system of regulation vacuums that favors destruction and irregular hunting. The number of elephant specimens, for instance, passed from 62,000 to 23,000 in 4 years, from 2002 to 2006²⁰⁶. The natural ecosystems were also endangered by the spread of refugees fleeing from the conflict building camps²⁰⁷.

3.1.4 Military-related population displacement

Population displacement and migration are two of the major issues of the present historic period. According to the IOM 2024 World Migration Report from 2024, about 117 million people were displaced globally as of the end of 2022²⁰⁸. The proportion of the distinct categories of displaced persons is the main source of concern for the purposes of the present section. The large majority of them are, in fact, Internally Displaced Persons (IDPs), precisely the 71.2 million²⁰⁹. Again, the large part of internal displacement is caused by conflict and violence, regarding 62.5 million of people²¹⁰ in sixty-five countries. Essentially, half of the displaced people move to escape violence and military conflicts. Alongside the humanitarian tragedy and the displaced population experience, the environment is also threatened by the sudden mass movement of population in several ways.

²⁰⁰ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2011). “The Democratic Republic of the Congo: Post-Conflict Environmental Assessment Synthesis for Policy Makers”. p. 22.

²⁰¹ *Ivi*, p. 40.

²⁰² *Ibid.*

²⁰³ UNESCO, Biodiversity Conservation in Regions of Armed Conflict: Protecting World Heritage in the Democratic Republic of the Congo, <https://whc.unesco.org/en/congobiodiversity/>

²⁰⁴ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2011). “The Democratic Republic of the Congo: Post-Conflict Environmental Assessment Synthesis for Policy Makers”. p. 40.

²⁰⁵ *Ibid.*

²⁰⁶ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2011). “The Democratic Republic of the Congo: Post-Conflict Environmental Assessment Synthesis for Policy Makers”. p. 41.

²⁰⁷ JHA, U. (2014). *Armed Conflict and Environmental Damage*. 1st ed. VIJ Books. p. 122.

²⁰⁸ INTERNATIONAL ORGANIZATION FOR MIGRATION. (2024). Edited by McAuliffe, M. and Oucho, L.A. *World Migration Report*. Geneva, p. 5.

²⁰⁹ *Ibid.*

²¹⁰ *Ivi*, p. 48.

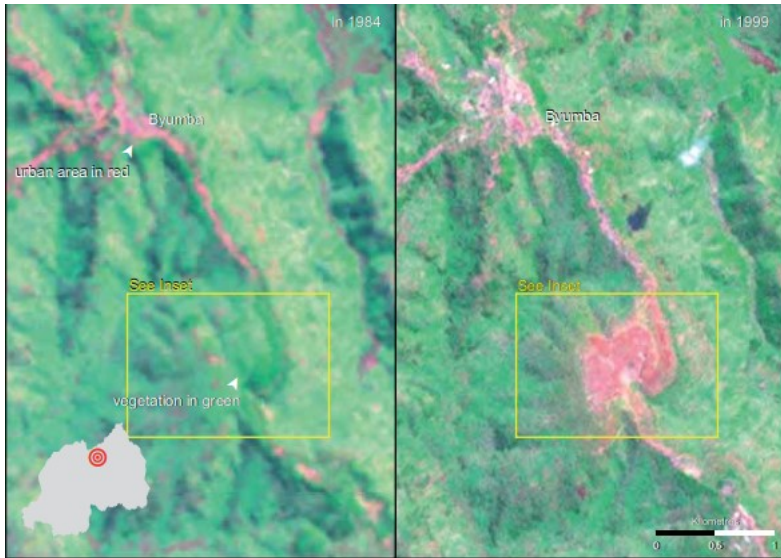


Figure 4 Gihembe refugee camp comparison 1984-1999

of refugees' flows escaping conflicts from neighboring countries in the subsequent years, especially from DRC and Burundi²¹². The impelling and urgent situation of necessity forced the population to select instantaneously the sites of new settlements and, consequently, the selection was inappropriate and gave birth to poor settlements with insufficient infrastructures. The absence of an effective authority impeded coordination and proper assessment. Consequently, the environment was reported to suffer from “(i) land degradation and severe soil erosion; (ii) fuelwood supply shortages; (iii) inadequate access to agricultural land and unsustainable agricultural practices; (iv) water shortages and poor sanitation; and (v) managing future population expansion”²¹³. IDPs occupied areas protected for conservation reasons, threatening precious ecosystems in eastern savanna and Congo-Nile highlands²¹⁴. The Gishwati Forest passed from covering 230 km² in 1980 to just 6 km² in 2002²¹⁵. In absence of regulation, massive deforestation occurred to provide sources of energy, wood, and shelter. With the new millennium the government has introduced standards for the implementation of new settlements and aims at developing strategies to efficiently manage the displacement in consideration of environmental issues and degradation.

A striking instance of this phenomenon can be found in Rwanda. The country has suffered from a tremendous conflict and genocide between 1990 and 1994, which had a substantial impact on the environment, particularly due to the population displacement, amounting to two million people²¹¹. Moreover, Rwanda was destination

²¹¹ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2011). “Rwanda, from post-conflict to Environmentally Sustainable Development”. p. 83.

²¹² *Ivi*, p. 74.

²¹³ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2011). “Rwanda, from post-conflict to Environmentally Sustainable Development”. p. 74.

²¹⁴ *Ivi*, p. 81.

²¹⁵ *Ibid*.

3.1.5 Physical soil modification from combat campaign

The morphology of the soil was repeatedly modified and shaped from military conflicts over human history, from defensive structures such as trenches to results of offensive activities such as the excavation of tunnels with the consequent removal of lateritic soil²¹⁶. The most common feature consequent to offensive attacks, however, is the “bombturbation”²¹⁷, considered as the cratering caused by bombs and shells, as well as anti-tank and anti-personnel mines. The type of environmental damage here considered is hardly categorizable as unintended, while it would hardly fall under the category of side effects, since little information can be found about an intentional military tactic directly prescribing the cratering of the soil, mainly referring to the case of intentional bombing to interrupt provisions or aid supply. On the contrary, entrenchment for defensive purposes can be guarded as intentional disturbance of the soil.

The cratering effect leads to severe consequences in terms of livelihood of the territory, such as contamination by chemicals or metallic components and modifications of the ecosystem. These effects were reported to be tragic in dimensions especially in Cambodia and Vietnam.



Figure 5 Kandal province, South Cambodia, January 2024

Departing from 1965 the United States dropped about 3.7 million tons of ordnance on Cambodia, more than the bombs dropped by the Allied forces in WWII²¹⁸. By the end of the war, about 2 million craters were created in South Vietnam. In the region of the Mekong delta bombs could reach the water table underneath the ground. These craters were reported to have a diameter between 10 and 15 meters and a depth between 1 and 4.5 meters²¹⁹. Often these craters remained permanently filled with water of different chemical compositions. Far from being only an agricultural or infrastructural issue, these pits in the terrain caused a modification of the ecosystem since they constitute the perfect

²¹⁶ CERTINI G. ET AL. (2013). “The impact of warfare on the soil environment”, *Earth-Science Reviews*, Volume 127. p. 2.

²¹⁷ *Ibid.*

²¹⁸ OWEN T. AND KIERNAN B. (2006). “Bombs over Cambodia”. p. 66-67.

²¹⁹ LIGHT C. ET AL. (1981). “Ecocide: A Strategy of War”

habitat for the diffusion of mosquitos bearing diseases. Under these circumstances, the population suffered from hemorrhagic fever and malaria²²⁰. The forced biological and chemical change, even when slight, can enhance the negative environmental conditions of countries, especially when vulnerable due to conflicts or disasters.

3.1.6 Military-related modifications to freshwater system

With the end of the 20th century and the outbreak of the new millennium studies on the influence of water availability on tensions and conflicts have scattered. A meticulous example is the work from 2023 by Kåresdotter on water-related conflicts, in which she demonstrates that in the last decade the world has experienced an increase in conflicts and decline in cooperation regarding water needs²²¹. It is crucial to underline that water resources are indispensable to construct sustainable development, and that water-wise vulnerability enhances and tangles with instability issues within countries. However, scarce academic attention was directed to the opposite issue: the conflict-related damage to the water system and supply²²². According to Francis²²³, water systems are remarkably vulnerable to conflict situations because of three reasons: their centrality to the “acts of war”²²⁴, such as the weaponization of water, their longitudinal and lateral “hydrological connectivity”²²⁵, and the remarkable difficulty of rehabilitation or restoration after a damage, again because of their network nature. These impacts may have a direct or indirect dimension. Warfare can directly affect water sources, or it can exacerbate a detrimental process already taking place by, for instance, impeding their proper management and maintenance in absence of an effective government²²⁶. Armed conflicts can damage waters by contamination, pollution, path deviation, destruction of underwater ecosystems, exploitation for surviving necessities, and many other ways.

In the case of Afghanistan, despite the potential availability of 75.000 million m³ of water, the most part of the country lived in conditions of water scarcity²²⁷, mostly because of the impossibility of implementing an integrated infrastructure at a national level as consequence of the war.

²²⁰ *Ibid.*

²²¹ KÅRESDOTTER E. ET AL. (2023). “Water-related conflict and cooperation events worldwide: A new dataset on historical and change trends with potential drivers”. *Science of The Total Environment*. Volume 868. p. 4.

²²² SCHILLINGER J. ET AL. (2020). “Water in war: Understanding the impacts of armed conflict on water resources and their management”. p. 2.

²²³ FRANCIS, R.A. (2011). “The Impacts of Modern Warfare on Freshwater Ecosystems”. *Environmental Management*.

²²⁴ *Ivi*, p. 987.

²²⁵ *Ibid.*

²²⁶ SCHILLINGER J. ET AL. (2020). “Water in war: Understanding the impacts of armed conflict on water resources and their management”. p. 9.

²²⁷ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2003). “Post-Conflict Environmental Assessment”. p. 49.

Unmeasurable damage was caused to one of the major rivers of the country, the Helmand River. It drains about 31%²²⁸ of the state's territory and creates a wetland zone, in the Sistan Basin, of which, at the time of the report, remained only the shadow. From 1991 to 2001 the waterflow of the river passed from 2211.7 million m³ to 48 m³²²⁹ and the satellite images of the Sistan Basin display its complete drying. The almost complete lack of central authority during the war caused the majority of the indirect environmental damage deriving from the conflict.

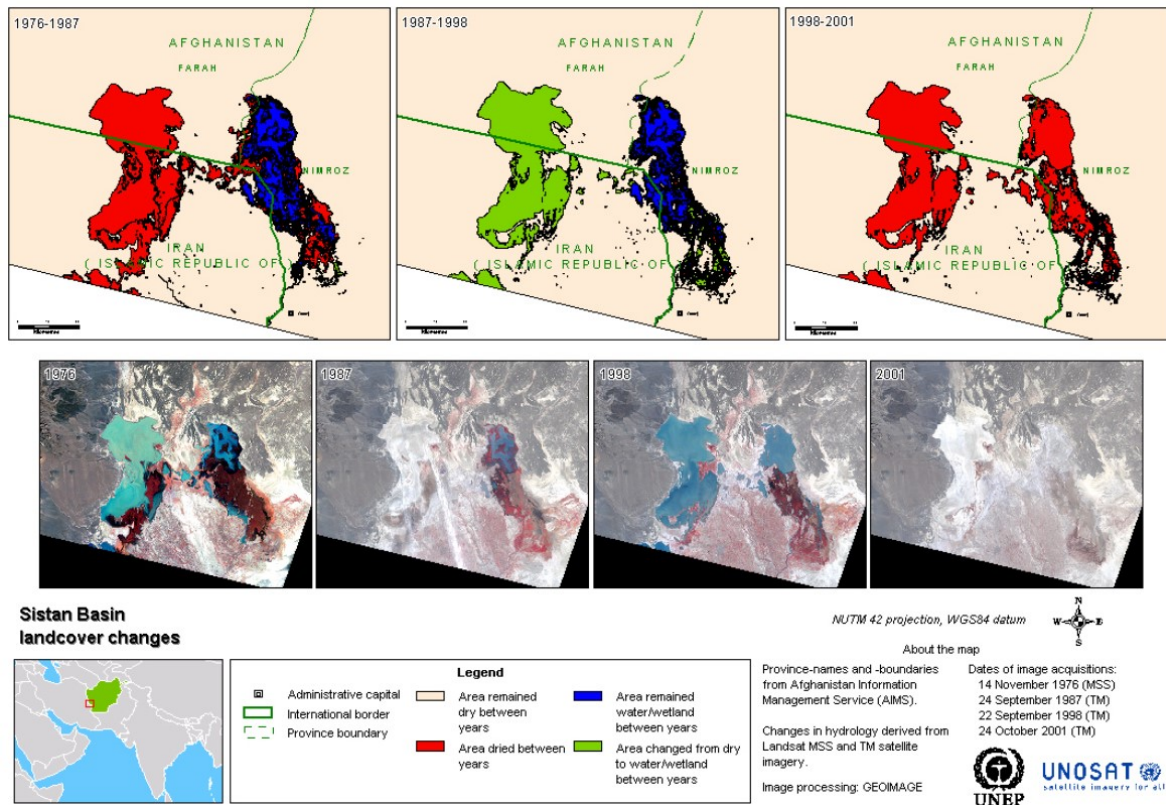


Figure 6 Sistan Basin desiccation from 1976 to 2002.

A further relevant case in terms of conflict-caused damage to the water source system, is the case of Ukraine, in particular of the Nova Kakhovka Dam Wall. According to a World Bank report from February 2024, the damage to Ukraine's irrigation and water resource sector is worth \$740.2 million²³⁰. The destruction of the Dam in June 2023 caused a dramatic increase in this value, which, increased 95% compared to its February value²³¹. This event caused a damage to forests, air pollution and protected areas for about \$26.5 billion, of which almost \$10 billion are attributable to a loss of "ecosystem services from protected areas"²³². The dam destruction had negatively impacted

²²⁸ Ivi, p. 50.

²²⁹ Ivi, p. 51.

²³⁰ WORLD BANK, UNITED NATIONS, EUROPEAN UNION, GOVERNMENT OF UKRAINE. (2024). "Ukraine rapid damage and needs assessment (RDNA3): February 2022-December 2023". Edited by Himmelfarb A. p. 107.

²³¹ Ivi. p. 108.

²³² Ivi. p. 156.

the environment by causing the flood of hazardous chemicals coming from close by industries and diseases, such as cholera and diarrhea²³³. According to the UNEP Rapid Environmental Assessment, the event impacted on the hydrological system, on the sediment composition of the soil, on its chemical composition, on the waste disposal and on protected areas degrading the biodiversity²³⁴.

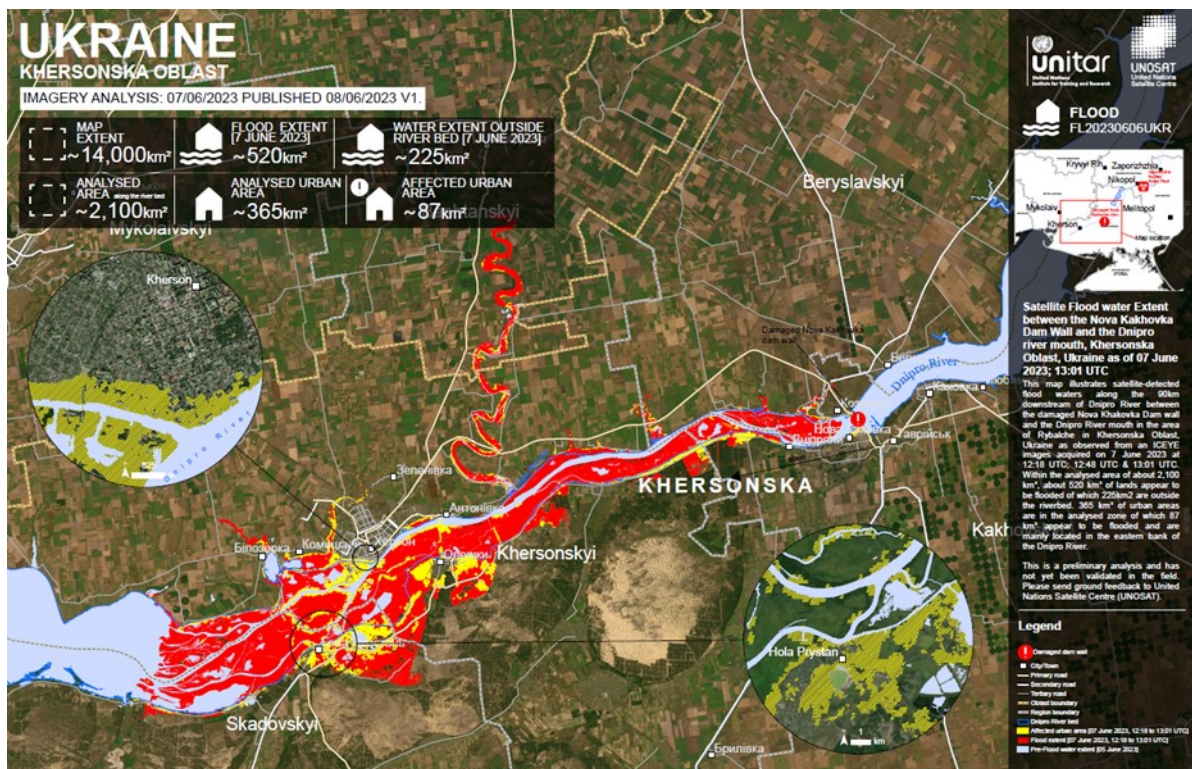


Figure 7 Satellite reconstruction of the water flood after the destruction of the Kakhovka Dam

3.1.7 Military-related soil erosion

The Food and Agriculture Organization (FAO) defines soil erosion as the “removal of topsoil from the land surface through water, wind and tillage”²³⁵ and a “primary cause of soil degradation”²³⁶. Despite being an originally natural phenomenon, artificial activities can accelerate soil erosion up to 1000 times²³⁷. Essentially, exposing the previously underlying soil, the erosion causes agricultural fertility to decrease and extreme natural events, such as landslides and floods, to

²³³ *Ibid.*

²³⁴ UNITED NATIONS ENVIRONMENT PROGRAMME. (2023). “Rapid Environmental Assessment of Kakhovka Dam Breach”.

²³⁵ FOOD AND AGRICULTURE ORGANIZATION, Global Symposium of Soil Erosion webpage, <https://www.fao.org/about/meetings/soil-erosion-symposium/key-messages/en/>

²³⁶ FOOD AND AGRICULTURE ORGANIZATION. (2019). “Proceedings of the Global Symposium on Soil Erosion”. Rome, p. 3.

²³⁷ FOOD AND AGRICULTURE ORGANIZATION, Global Symposium of Soil Erosion webpage, <https://www.fao.org/about/meetings/soil-erosion-symposium/key-messages/en/>

increase in frequency and intensity. Biodiversity ecosystem functions are also negatively affected by soil erosion. The effects are proved to be often bidirectional: a modification of the waterflows, for instance, can determine a dangerous soil erosion, that can, in return, contaminate the flooding water with toxic chemicals. Similarly to previous categories of environmental degradation, soil erosion is also aggravated by the lack of firm governance, that often allows unsustainable practices.

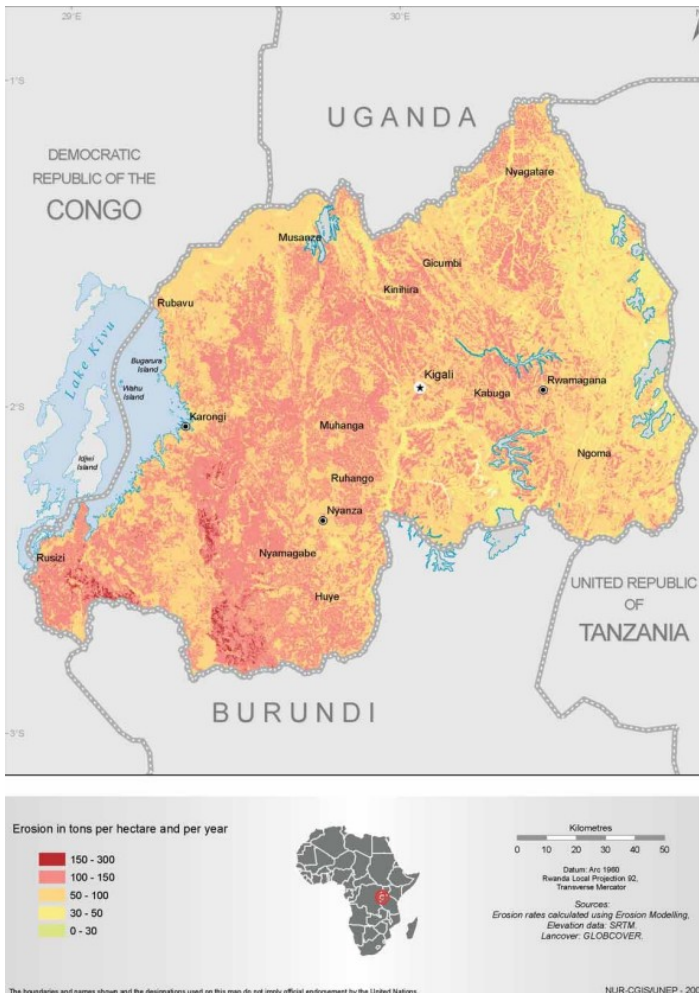


Figure 8 Soil Erosion rates in Rwanda, UNEP

Once again, Rwanda offers a proof of the relationship between accelerated erosion of the soil and armed conflict. In its post-conflict report, the UNEP presents the erosion on territorial Rwanda as “extreme”²³⁸, due to a combination of factors, such as “steep topography”²³⁹, “soil susceptibility to erosion”²⁴⁰ and climate. The report also specifies that these conditions date back to the period of colonization, but it is only from 1994 that the phenomenon became significantly severe²⁴¹. The agricultural issues of the country are mostly due to the erosion of the ground which causes the loss of organic nutrients. Erosion is a primary cause of increase in the intensity of floods since it undermines water containment and storage capacity. UNEP’s study measured soil erosion in the country and judged it as

of extreme gravity, calling for the need of further research. According to this research, erosion’s most important consequence can be found in the compromission of the water system and its contamination²⁴². Erosion is also strictly connected to the building of refugee camps previously mentioned (section 4.1.4). New camps often require a certain deforestation, which is also one of the

²³⁸ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2011). “Rwanda, from Post-Conflict to Environmentally Sustainable Development”. p. 132.

²³⁹ *Ibid.*

²⁴⁰ *Ibid.*

²⁴¹ *Ibid.*

²⁴² *Ivi.* p. 35.

most common causes of erosion, and, consequently, of landslides. Environmental degradation measured in post-conflict situations is significantly serious and, as we discussed, strictly interdependent.

3.2 System of international legal environmental protection under armed conflicts

3.2.1 Wartime environmental obligations of states

The cases of mass damage from military activities on natural resources and ecosystems articulated in the precedent section, took place relatively recent times. However, international actors were aware of the likelihood of environmental threat from wars long before, even if partially. Nevertheless, similarly to the path experienced by general environmental law, the category of international wartime environmental law developed departing from a sporadic and sectorial normative effort. The early provisions in this sense were collateral to humanitarian law. As previously argued, up to date environmental law is not enriched by an equivalent to the 1948 Universal Declaration of Human Rights for international humanitarian law (ILC). For the purposes of this section, however, it is necessary to underline that it is not enriched by an equivalent to the 1949 Geneva Convention either, in meaning that no comprehensive international legal instrument was produced with the specific aim of protecting the environment during armed conflicts. As a consequence, the most part of states' obligations in terms of environmental protection in wartime originate from multilateral agreements.

Back in 1997 Westing distinguished the main legal approaches to wartime environmental protection: (1) remaining at peace, (2) establishing zones of peace, (3) limiting certain weapons, (4) limiting certain means of warfare, and (5) limiting damage to natural resources²⁴³. Despite being quite outdated, this classification proves to be useful to analyze the structure of the legal system. Preserving peace is the aim of the United Nations Charter²⁴⁴ in instituting a prohibition of the threat or use of force under Article 2(4) and of other older legal instruments, such as the 1928 Treaty for the Renunciation of War²⁴⁵. The approach for the establishment of peace zones is exemplified by

²⁴³ WESTING, A.H. (1997). "Environmental Protection from Wartime Damage: The Role of International Law". *Conflict and the Environment*, by Gleditsch, N.P. NATO ASI Series. vol 33. pp. 535-538.

²⁴⁴ Signed on 26 June 1945, in San Francisco. Into force since 24 October 1945.

²⁴⁵ Signed on 27 August 1928. Entered into force on 24 July 1929.

the 1972 World Heritage Convention²⁴⁶ or the 1959 Antarctic Treaty²⁴⁷. Prohibiting or restricting the potential use or stockage of a certain type of weapons was a strategy adopted with the 1925 Geneva Protocol on Chemical and Bacteriological Warfare, for instance, during the Cold War in key agreements such as the SALT Accords²⁴⁸ or the New START²⁴⁹ agreement. The fourth approach moves closer to a direct aim of environmental protection, by limiting particular warfare, but it functions under an anthropocentric view. The 1977 Protocol I on International Armed Conflicts²⁵⁰, for example, prescribes the prohibition of means of warfare that cause “widespread, long-term and severe damage”²⁵¹ to the environment, but only conditioned to the fact that those means “prejudice the health or survival of the population”²⁵². Limiting the exploitation of natural resources is the aim of legal instruments that fall under the fifth category. By doing so, these instruments offer protection against conflict-related damage as well. The most important instrument in this sense, and also the first one considering the environment and its protection directly, is the ENMOD Convention²⁵³. Article I (1) states: “Each State Party to this Convention undertakes not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party”²⁵⁴, without reference to the implications on human population. Other exemplary sources of law are the 1899 Hague Convention II²⁵⁵ and 1907 Hague Convention IV²⁵⁶. For instance, both instruments prescribe that an occupying power cannot dispose of the natural resources of the occupied power, while it shall limit itself to manage and guard them²⁵⁷. Instruments of soft law are also available to guide us in interpreting the legal consolidation of a principle in international law. The 1992 Rio Declaration on Environment and Development is the perfect example of a non-binding source of law, but it

²⁴⁶ Signed on 16 November 1972 in Paris, France. Entered into force on 17 December 1975.

²⁴⁷ Signed in Washington on 1 December 1959. Entered into force in 1961.

²⁴⁸ Signed on 26 May 1972 and 18 June 1979, not in force.

²⁴⁹ Signed on 8 April 2010. Entered into force on 5 February 2011.

²⁵⁰ Signed on 8 June 1977. Entered into force on 7 December 1978.

²⁵¹ *Protocol Additional to the Geneva Conventions*. 12 August 1949. Adopted on 8 June 1977. Entered into force 7 December 1979. Article 55(1) Recites: “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.”

²⁵² *Ibid.*

²⁵³ COUNCIL OF EUROPE. (2020). “Environmental impact of armed conflict”. Parliamentary Assembly report. Committee on Social Affairs, Health and Sustainable Development. Doc. 15074. Reference 4506 of 7 May 2020. p. 8.

²⁵⁴ *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)*. Adopted on 10 December 1976. Entered into force on 5 October 1978.

²⁵⁵ Signed on 29 July 1899. Entered into force on 4 September 1900.

²⁵⁶ Signed on 18 October 1907. Entered into force on 26 January 1910.

²⁵⁷ *1907 Hague Convention IV*. Adoption 18 October 1907, entry into force 26 January 1910. Art. 55: “The occupying State shall only be regarded as administrator and usufructuary of the public buildings, real property, forests and agricultural works belonging to the hostile State, and situated in the occupied country. It must protect the capital of these properties, and administer it according to the rules of usufruct”.

remains an essential reference in environmental law. Concerning armed conflicts, principle 24 prescribes that states shall “respect international law providing protection for the environment in times of armed conflict”²⁵⁸. The Council of Europe developed other conventions²⁵⁹: the Convention on Civil Liability for Damage resulting from Activities Dangerous to the Environment²⁶⁰, the Convention on the Conservation of European Wildlife and Natural Habitats²⁶¹ and the Landscape Convention²⁶².

Coming to international norms of customary nature, several examples serve the environmental cause, even if indirectly and even if they were not conceived precisely with this intention. For instance, the “principles of limitation, military necessity, proportionality, discrimination (between civilian and military objectives), precautions, and prevention of causing superfluous injury or unnecessary suffering”²⁶³ can be waived to limit environmental harm under an armed conflict. An attempt of codification was made by the Red Cross with the Guidelines for Military Manuals Instructions²⁶⁴ in 1994. Finally, on 27 May 2022 the ILC adopted 28 non-binding draft principles on the protection of the environment in relation to armed conflicts²⁶⁵, which have been adopted by the General Assembly on 7 December 2022²⁶⁶, contributing consolidating new customary norms. The key principle in number 13, which states:

“1. The environment shall be respected and protected in accordance with applicable international law and, in particular, the law of armed conflict.

2. Subject to applicable international law:

(a) Care shall be taken to protect the environment against widespread, longterm and severe damage;

²⁵⁸ UNITED NATIONS. (1992). *Report of the United Nations Conference on Environment and Development*. Rio de Janeiro. 3-14 June 1992. Rio Declaration on Environment and Development. Principle 24, p. 4.

²⁵⁹ COUNCIL OF EUROPE. (2020). “Environmental impact of armed conflict”. Parliamentary Assembly report. Committee on Social Affairs, Health and Sustainable Development. Doc. 15074. Reference 4506 of 7 May 2020. p. 8.

²⁶⁰ Adopted on 21 June 1993.

²⁶¹ Adopted on 19 September 1979. Into force from 1 June 1982.

²⁶² Signed on 20 October 2000. Into force from 1 March 2004.

²⁶³ COUNCIL OF EUROPE. (2020). “Environmental impact of armed conflict”. Parliamentary Assembly report. Committee on Social Affairs, Health and Sustainable Development. Doc. 15074. Reference 4506 of 7 May 2020. p. 9.

²⁶⁴ INTERNATIONAL COMMITTEE OF THE RED CROSS. (1994). “The Red Cross Guidelines for Military Manuals and Instructions on the Protection of the Environment in Times of Armed Conflict to be implemented in national military training programmes”. Updated in 2020.

²⁶⁵ COUNCIL OF EUROPE. (2020). “Environmental impact of armed conflict”. Parliamentary Assembly report. Committee on Social Affairs, Health and Sustainable Development. Doc. 15074. Reference 4506 of 7 May 2020. p. 9.

²⁶⁶ United Nations General Assembly. (2022). “Protection of the environment in relation to armed conflicts”. Resolution 77/104. Seventy-seventh session. *Report of the International Law Commission on the work of its seventy-third session*. 19 December 2022

(b) The use of methods and means of warfare that are intended, or may be expected, to cause widespread, long-term and severe damage to the environment is prohibited.

3. *No part of the environment may be attacked, unless it has become a military objective*²⁶⁷.

This brief section displayed the main obligations binding states under international law for the protection of environment in cases of armed conflict. Additional obligations are to be considered state-by-state depending on the agreements to which it is bound. As presented in section 2.3., several consequences are entailed for breaching these provisions, determining environmental harm in wartime. The consequences can be governed both by the regime of the law of the treaties' and by the states' responsibility regime. However, differently from peacetime, in wartime there is another regime to be considered when addressing the consequences under international law of massive environmental damage, the individual criminal responsibility.

3.2.2 Wartime environmental obligations of individuals: status quo of environmental criminal law

The most relevant occurrence shaping the current legal system in terms of crimes against the environment is the adoption of the Statute of Rome (hereinafter Rome Statute), the statute of the first permanent international tribunal, the International Criminal Court (ICC), in the context of the United Nations Diplomatic Conference of Plenipotentiaries on the Establishment of an International Criminal Court (Rome Conference) from 15 June to 17 July 1998²⁶⁸. The ICC was conceived to bear the duty of prosecuting individuals for crimes against peace. The struggle between different approaches focused on one hand, on "sovereignty" and, on the other, on "universality," led to a compromise solution. Under this compromise, the court's jurisdiction is determined by the following three requirements: *rationae personae* or *rationae loci*, *rationae temporis* and *rationae materiae*. The first requirement is met if the prescriptions on *rationae personae* or *rationae loci* are met, alternatively or complementarily. Concretely, to be prosecutable, the alleged crime must be committed by a national of a state party or in the territory of one of the state parties, or both. To concur to the formation of *rationae loci* the crime can also be referred by the UNSC or by a non-

²⁶⁷ United Nations General Assembly. (2022). "Protection of the environment in relation to armed conflicts". Resolution 77/104. Seventy-seventh session. *Report of the International Law Commission on the work of its seventy-third session*. 19 December 2022. Principle 13.

²⁶⁸ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126.

party state that accepts the authority of the court the “crime in question”²⁶⁹. The *rationae temporis* requirement reflects the principle *nullum crimen sine lege* and prescribes that the alleged crime must be committed after the entry into force of the statute itself. *Rationae materiae* concerns the conduct constituting crimes under the jurisdiction of the court, listed in Article 5 of the statute. Before proceeding discussing the provided international crimes, it is worth mentioning the two essential elements of a crime: the *actus reus* and the *mens rea*. The criminal act, the *actus reus*, consists of the unlawful conduct committed, while the criminal intent, the *mens rea*, consists of the mental element declined either as purpose, knowledge, recklessness or negligence.

At its entry into force in 2002, Article 5 of the Rome Statute introduced the crimes to be considered against the interests of the international community as a whole. The crimes under the Court’s jurisdiction in 1998 amounted to three: crime of genocide, crimes against humanity and war crimes. In 2010 the Kampala Amendment introduced the crime of aggression in the Rome Statute as fourth international crime. The crime of massive environmental degradation was not included in the *rationae materiae* jurisdiction of the Court as an independent crime. The conduct of mass damage to the environment can only be prosecuted in wartime contexts under Article 8, precisely paragraph (2)(b)(iv):

“Article 8 - War crimes

1. *The Court shall have jurisdiction in respect of war crimes in particular when committed as part of a plan or policy or as part of a large-scale commission of such crimes.*

2. *For the purpose of this Statute, "war crimes" means:*

(b) Other serious violations of the laws and customs applicable in international armed conflict, within the established framework of international law, namely, any of the following acts:

(iv) Intentionally launching 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;”

²⁶⁹ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Art. 12(3), p. 14.

Freeland holds that such a compromise was the only “feasible”²⁷⁰ solution in political terms. The paragraph introduces various requirements for the constitution of such crime. First of all, the *mens rea* required is the intent of committing the act “in knowledge” of the possible harm. The results of the conduct must include harm to civilians or, again, “widespread, long-term and severe damage” to the environment. The threshold of requirements to constitute the *rationae materiae*, has been raised comparing it to Article 55(1) of Additional Protocol to the Geneva Conventions²⁷¹ and to article I (1) of the ENMOD Convention²⁷². For instance, the selection of “and” as connector between “widespread,” “long-term” and “severe” denotes a higher degree of required seriousness to fall within the scope of the article. The bar is further raised by the need for conduct to clearly result in an excess of military force, being not proportional to the considered the military objective. The assessment of the “concrete and direct overall military advantage”²⁷³ will be considered based on the available information that the perpetrator held at the time being. Deriving from the Draft Articles of 1996, the Rome Statute designs the major natural destruction as a case of war crime, and, as such, it is considered only under the perspective of a military attack in the context of an armed conflict. On top of that, the clause on the “military advantage” is likely to excuse the most part of the military conduct damaging the environment, as the article resorts to a strict understanding. In this sense, the defendant could easily argue that, at their knowledge at the time, the environmental damage was not “clearly excessive” for the valuable military aim²⁷⁴. Both intention and knowledge are hardly provable at the same time. Scholars, such as Freeland, have attempted at interpreting the letter of the statute from an environmentalist perspective to include environmental crimes in the definitions of international crimes, other than war crimes. However, Article 22 of the Statute²⁷⁵ prescribes that

²⁷⁰ FREELAND S. (2022). “Crimes Against the Environment: What Role for the International Criminal Court?”. *The Environment Through the Lens of International Courts and Tribunals*. DOI: 10.1007/978-94-6265-507-2_6. p. 162.

²⁷¹ *Protocol Additional to the Geneva Conventions*. 12 August 1949. Adopted on 8 June 1977. Entered into force 7 December 1979. Article 55(1) Recites: “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.”

²⁷² *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)*. Adopted on 10 December 1976. Entered into force on 5 October 1978. Article I(1) states: “Each State Party to this Convention undertakes not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party”.

²⁷³ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Art. 8(b)(iv) recites: “Intentionally launching 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”.

²⁷⁴ RAUXLOH, R. (2011). “The role of international criminal law in environmental protection”. *Natural Resource Investment and Africa's Development*. 433.

²⁷⁵ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Art 22(2), prescribes that: “The definition of a crime shall

the definition of the crimes should not be extended, and the interpretation, if needed, must always favor the person responding of crimes in front of the Court. Certainly, the statute must be considered as an ever-evolving instrument, not always reflecting the actual customary law of the moment. As of today, no individual has been prosecuted or convicted by the ICC for the crime in question and for the ICC Statute, environmental damage remains a minor issue. It was only in 2016 that the Office of the ICC Prosecutor issued a Policy paper which states that the prosecutor will give “particular consideration”²⁷⁶ to the crimes resulting in the destruction of the environment as an aggravating factor, but not to the crime of ecocide as such²⁷⁷.

In 2010 the idea at the basis of this dissertation has been presented by Higgins with the publication of the book “*Eradicating Ecocide: laws and governance to prevent the destruction of our planet*”. The author advances the proposal of a new fifth international crime against peace and, as such, against the scope of the UN Charter²⁷⁸. The crime is defined as:

“*The extensive destruction, damage to or loss of ecosystem(s) of a given territory, whether by human agency or by other causes, to such an extent that peaceful enjoyment by the inhabitants of that territory has been severely diminished*”²⁷⁹.”

Moreover, the author distinguishes non-ascertainable and ascertainable ecocide. The first one consists in a damage to the territory *per se*, and the second one includes the liability of a legal person²⁸⁰. In April 2010, the proposal has been submitted to the International Law Commission²⁸¹.

A few years later, Neyret published a report²⁸² with thirty-five proposals to firmly enhance the environmental protection toward criminal law. The author proposes two conventions: the first

be strictly construed and shall not be extended by analogy. In case of ambiguity, the definition shall be interpreted in favour of the person being investigated, prosecuted or convicted”.

²⁷⁶ INTERNATIONAL CRIMINAL COURT. (2016). “Policy paper on case selection and prioritization”. The Office of the Prosecutor. 15 September 2016.

²⁷⁷ MINKOVA, L. G. (2023). “The Fifth International Crime: Reflections on the Definition of Ecocide”. *Journal of Genocide Research*. p. 63.

²⁷⁸ UNITED NATIONS. (1945). *United Nations Charter*. Adopted on 26 June 1945. Entered into force on 24 October 1945. The preamble recites: “We the peoples of the United Nations determined to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind, and to reaffirm faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small, and to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained, and to promote social progress and better standards of life in larger freedom”.

²⁷⁹ HIGGINS P. (2015). *Eradicating Ecocide: laws and governance to prevent the destruction of our planet*. 2nd Ed 2015. Published by Shephard-Walwyn. p. 63.

²⁸⁰ *Ibid*.

²⁸¹ HIGGINS, POLLY & SHORT, DAMIEN & SOUTH, NIGEL. (2013). “Protecting the planet: A proposal for a law of ecocide”. *Crime, Law and Social Change*. 10.1007/s10611-013-9413-6. p. 10.

²⁸² NEYRET, L. (2017). “From Ecocrimes to Ecocide. Protecting the Environment Through Criminal Law”. C-EEE Reports. Cambridge Centre for Environment. Energy and Natural Resource Governance. University of Cambridge. pp.1-198.

against Ecocrimes and the second against Ecocide. Ecocrimes would be considered as “endangerment of the environment, resulting from the following illegal acts committed intentionally or with at least serious negligence”²⁸³, while ecocide is defined as “the intentional acts committed in the context of a widespread and systematic action that have an adverse impact on the safety of the planet”²⁸⁴. The idea focuses on the introduction of brand new domestic legal provisions and on the harmonization and strengthening of existing domestic legal instruments concerning crimes. While being important for the consolidation and definition of Ecocide, the proposal does not provide for a crime at the international level.

A brief mention is worth making about the national and supra-national dimension. At the present day, the crime of ecocide is a legislative reality in fifteen countries, such as Vietnam, Ecuador, France, Russia, Ukraine, Belgium, and Chile²⁸⁵, while other seven countries registered a proposal in this sense. Besides, the most recent and remarkable momentum for the evolution of environmental law has taken place in Europe on 26th May 2024. With the approval of the European Parliament, the European Union became the first regional political organization recognizing the crime of ecocide. Following the 2021 proposal of the Commission, in fact, the European Parliament and Council have adopted the Directive 2024/1203 on the protection of the environment through criminal law and replacing Directives 2008/99/EC and 2009/123/EC²⁸⁶. The directive establishes the minimum level of protection of the environment to be implemented by the states which must decide and declare a national strategy by 21st May 2027. At article 3, paragraph 2 the Directive²⁸⁷ lists the conduct that can entail the criminal responsibility if intentional and unlawful. The twenty listed conduct that the states will need to involve include the discharge or emission of substances which causes or is likely to cause the death of, or serious injury to, any person or substantial damage to air, soil or water, or substantial damage to an ecosystem, animals or plants, as well as the construction or dismantling of an installation which causes or is likely to cause the damage aforementioned. Subsequently, Article 3(3) specifies that the conduct listed in the previous article concur as crimes if they result in:

²⁸³ *Ivi.* Article 3, p. 16.

²⁸⁴ *Ivi.*, Article 2, p. 37.

²⁸⁵ STOP ECOCIDE FOUNDATION INTERNATIONAL. “Leading States”. available at <https://www.stopecocide.earth/leading-states>

²⁸⁶ EUROPEAN UNION. (2024). Directive (EU) 2024/1203 of the European Parliament and of the Council of 11 April 2024. Protection of the environment through criminal law and replacing Directives 2008/99/EC and 2009/123/EC, in force.

²⁸⁷ EUROPEAN UNION. (2024). Directive (EU) 2024/1203 of the European Parliament and of the Council of 11 April 2024. Protection of the environment through criminal law and replacing Directives 2008/99/EC and 2009/123/EC, in force. Article 3(2), p. 14.

- (a) “[T]he destruction of, or widespread and substantial damage which is either irreversible or long-lasting to, an ecosystem of considerable size or environmental value or a habitat within a protected site, or
- (b) widespread and substantial damage which is either irreversible or long-lasting to the quality of air, soil, or water.”²⁸⁸

Paragraph 4 mentions the conduct from the previous list that do not require intention as *mens rea*, while it is sufficient a “serious negligence”²⁸⁹. Instances of this category are the abstraction of surface water or groundwater, if it causes or is likely to cause substantial damage to the environmental status or future potential or the killing, destruction, sale or of a specimen or specimens of a species of wild fauna or flora. Remarkably, both natural and legal persons must constitute the *rationae personae* of the legislation that states are obliged to introduce. Finally, under Article 16²⁹⁰, states have a positive obligation of adopting prevention measures to reduce the risk to the environment, such as the cooperation and coordination of national authorities, the recording, production, and provision of statistical data, as well as the reporting activity to the Parliament and Council. The Directive certainly constitutes a turning point, despite not being the “zero-tolerance”²⁹¹ initiative promised by the European Parliament rapporteur Antonius Manders in November 2023.

A further point worth mentioning is the fact that no international convention specifically on the subject of ecocide has been adopted or internationally considered up to date. Already back in the seventies, Falk noted that “just as the Genocide Convention came along to formalize part of what had already been condemned and punished at Nuremberg, so an Ecocide Convention could help carry forward into the future a legal condemnation of environmental warfare in Indochina”²⁹². More than fifty years later, no advancement in this direction appears close in time. Moreover, new challenges to environmental protection have scattered, challenges which are hardly deriving from conflictual situations. The 2023 Emissions Gap Report from the UNEP displays a situation in which the 86% of the CO₂ emissions are due to the energy market²⁹³. In the Global Resources Outlook report, UNEP researchers found that in 2020 60% of the global demand for materials was destined

²⁸⁸ *Ivi.* Article 3(2), p. 17.

²⁸⁹ *Ibid.*

²⁹⁰ *Ivi.* Article 16, p. 24.

²⁹¹ EUROPEAN PARLIAMENT. (2023). Press release on 16-11-2023, RIF.: 20230929IPR06108, available at: <https://www.europarl.europa.eu/news/en/press-room/20230929IPR06108/environmental-crimes-deal-on-new-offences-and-reinforced-sanctions>

²⁹² FALK R. (1973). “Environmental Warfare and Ecocide: Facts, Appraisal, and Proposals”. “Bulletin of Peace Proposals”. vol. 4. p. 7.

²⁹³ UNITED NATIONS ENVIRONMENT PROGRAMME. (2023). “Emissions Gap Report 2023: Broken Record – Temperatures hit new highs, yet world fails to cut emissions (again)”. p. 35.

to the built environment and mobility sectors (including construction and transport)²⁹⁴. Food, energy, and communication sectors determine the residual material footprint for relatively, 24, 6, and 2%. From the “decade of the environment”²⁹⁵ up to the year 2000, the material footprint increased in reason of population and affluence growth but it was only partly offset by technological advancements²⁹⁶. From 2000 up to date, affluence growth was the most impactful driver of the increase in domestic material extraction (40%)²⁹⁷. As a consequence of these global trends, more and more scholars have initiated advocating for a brand-new formulation of environmental criminal law. Given the current multifactorial causes of massive environmental destruction, in fact, the latter cannot be conceived solely as an international crime belonging with wartime context. To address the issue, scholars have resumed the five-decades-old concept of ecocide. But where does the “ecocide” originate from? Which are the original ratio and legal extremes of the crime of ecocide? How did the concept develop?

²⁹⁴ UNITED NATIONS ENVIRONMENT PROGRAMME. (2024). “Global Resources Outlook 2024: Bend the Trend – Pathways to a liveable planet as resource use spikes”. International Resource Panel. p. 34.

²⁹⁵ GALSTON A. (1970). *Technology and American Power: the Changing Nature of War, in War crimes and the American conscience*. A transcription of the Congressional Conference on War and National Responsibility, edited by Knoll, Erwin. p. 68.

²⁹⁶ UNITED NATIONS ENVIRONMENT PROGRAMME. (2024). “Global Resources Outlook 2024: Bend the Trend – Pathways to a liveable planet as resource use spikes”. International Resource Panel. p. 37.

²⁹⁷ *Ivi*. p. 38.

4 Worst environmental case scenario: birth and development of the notion of Ecocide

The phenomenon of environmental damage is very wide and different and involves a large spectrum of actions and omissions. It does not imply the same consequences or affect the same actors. Differences in the level of impact and in the range of affected subjects can determine different consequences. Moreover, a given harmful action can entail different effects according to the structure of the ecosystem onto which it is committed. These characteristics determine difficulties in responding to and managing environmental damage. Distinguishing the responsibility of states or individuals on the basis of the entity of the damage has not been a priority of early environmental law, since its only recent evolution departing from the beginning of the 20th century. Early environmental law prioritized the limitation of sectoral activities such as the 1909 Treaty Between the USA and Great Britain Respecting Boundary Waters Between the USA and Canada, and 1954 International Convention for the Prevention of Pollution of the Sea by Oil²⁹⁸. Counter-intuitively, environmental mass destruction has been conceived only subsequently to the conception of minor conduct harmful to nature, precisely as bacteriological warfare. Furthermore, to address the delay in the conception of massive destruction as proper category, it is exemplar to consider that the need to define a conduct causing major damage to the environment appeared more than twenty years after one of the most destructive events in the history of the world, the detonation of the atomic bombs over Hiroshima and Nagasaki in August 1945. The concept developed essentially to respond to a type of warfare able to irreversibly damage the environment. However, as one of the theorists of ecocide argued, limiting the concept to damage related to military conflicts can easily be seen as “shortsighted”²⁹⁹. Nowadays, in fact, the concern of serious ecological debilitation falls mainly upon unsustainable lifestyles, resource extraction, waste emissions³⁰⁰. Climate change was not an issue when scientists proposing ecocide were formulating the concept, while currently massive environmental harm concerns scientists, especially in view of its consequences on the rapid changes in the equilibrium of habitats all around the world. It goes without saying that presently armed conflicts constitute an important threat to ecosystems and non-human living species as well, despite biological and environmental destructive warfare being much more regulated than in the past, with

²⁹⁸ EVANS, M. (2018) *International Law*, Oxford, Fifth Edition. pp. 678

²⁹⁹ WESTING, A. H. (1974). “Proscription of Ecocide”. *Science and Public Affairs*. p. 26.

³⁰⁰ UNITED NATIONS ENVIRONMENT PROGRAMME. (2024). “Global Resources Outlook 2024: Bend the Trend – Pathways to a liveable planet as resource use spikes”. International Resource Panel. pp. 19-43

conventions limiting the stocking and recourse of atomic warfare³⁰¹. The present chapter will analyze the reasons and the context of the birth of ecocide as a notion and its progress into international law up to the adoption of the Rome Statute, to conclude discussing the importance of its independent implementation for an effective environmental protection.

4.1 Birth of the concept of “Ecocide”

“After the end of World War II, and as a result of the Nuremberg trials, we justly condemned the willful destruction of an entire people and its culture, calling this crime against humanity genocide. It seems to me that the willful and permanent destruction of environment in which a people can live in a manner of their own choosing ought similarly to be considered as a crime against humanity, to be designated by the term ecocide”³⁰².

In 1970 in Washington D.C. the scientist, plant biologist and bioethicist Arthur W. Galston from the Department of Botany at Yale University, pronounced these words in the context of the Congressional Conference on War and National Responsibility, edited transcript of which can be found in the volume *War Crimes and American Conscience*³⁰³. The object of the Conference and the trigger of Galston’s reasoning is the American military conduct in Indochina, more precisely in Vietnam, departing from the early sixties. According to Zierler³⁰⁴, from the mid-sixties activists and theorists of international law attempted to demonstrate the illegality of American intervention in the region. The invention of “Ecocide” as a concept can be regarded as ecologists and scientists’ way of framing the government for the destruction of the environment as method employed during the Vietnamese war. Galston opens its intervention at the conference by defining the new military techniques employed in the region as “environmental warfare”³⁰⁵, meaning the use of chemical technologies with the precise aim of altering the enemies’ territory and natural landscape, defoliating

³⁰¹ CASSESE A. (2023). “Means of Warfare: The Traditional and the New Law”. *Journal of International Criminal Justice*. Volume 21. pp. 1158-1161

³⁰² GALSTON A. (1970). “Technology and American Power: the Changing Nature of War”. *War crimes and the American conscience. A transcription of the Congressional Conference on War and National Responsibility*, edited by Knoll. Erwin. p. 71.

³⁰³ GALSTON A. (1970). “Technology and American Power: the Changing Nature of War”. *War crimes and the American conscience. A transcription of the Congressional Conference on War and National Responsibility*, edited by Knoll. Erwin.

³⁰⁴ ZIERLER D. (2011). *The Invention of Ecocide: Agent Orange*. University of Georgia Press. p. 28.

³⁰⁵ GALSTON A. (1970). “Technology and American Power: the Changing Nature of War”. *War crimes and the American conscience. A transcription of the Congressional Conference on War and National Responsibility*, edited by Knoll. Erwin. p. 68.

and destructing crops, with the consequence of causing a major and permanent “scar.” The biologist refers to the extensive use of the so-called Agent Orange, a combination of chemical substances 2,4-d and 2,4,5-t³⁰⁶, on Vietnamese and Cambodian soil from the 1961 under Operation Ranch Hand by South Vietnamese forces, under the effective direction of the American army³⁰⁷. The numbers, according to Zierler, describe a situation in which five million acres of land (about the 10% of total South Vietnamese surface) have been sprayed with twenty million gallons of chemical herbicide, of which fifteen only between 1966 and 1969³⁰⁸. The undeclared aim was both to destroy the alimentation supply of the Vietnamese combats, based mostly on rice, and to clear the territory to limit the guerilla tactics effectively employed by the Vietnamese. Whether the use constituted a violation of the 1925 Geneva Convention against the use of specific gases was not certain at the time, and Americans argued that the Convention prohibited the use of gases only against human beings³⁰⁹. Military representatives have claimed for a long time that such employment did not risk having a permanent impact on the ecological resources of the country, but time revealed a different outcome. Mangroves and bamboo have not recovered at the pre-war level yet, causing the migration of multiple species of fish³¹⁰. During the monsoon rains, the territory is not able to reserve water with the same capacity³¹¹. Other long-term implications of the use of herbicidal warfare have been the unusable character of arable and timber land, the injuries caused by unexploded bombs, the growth of malaria or dengue fever cases consequently to the formation of bombs craters penetrable by water, the higher erosion of soil caused by the diffusion of craters and the higher incidence of fungus infections on trees. Again, the consequences on human beings are visible still nowadays especially near the sprayed “hot spots”³¹², since the higher incidence of newborns carrying malformations registered in the area Galston was researching about back in 1970. The Agent was categorized as carcinogenic in the late sixties and caused various health problems to the American veterans as well³¹³. It is worth noting that Galston considered the environmental damage mainly in function of its repercussion on how “a people” could auto determine itself following the paradigm according to which natural resources are considered at the free disposal of humanity³¹⁴, and not

³⁰⁶ *Ivi.* p. 71.

³⁰⁷ ZIERLER D. (2011). *The Invention of Ecocide: Agent Orange*. University of Georgia Press. p. 2.

³⁰⁸ *Ibid.*

³⁰⁹ *Ivi.* p. 3.

³¹⁰ *Ivi.* p. 132.

³¹¹ *Ivi.* p. 113.

³¹² *Ivi.* p. 6.

³¹³ ZIERLER D. (2011). *The Invention of Ecocide: Agent Orange*. University of Georgia Press. p. 6.

³¹⁴ GALSTON A. (1970). “Technology and American Power: the Changing Nature of War”. *War crimes and the American conscience. A transcription of the Congressional Conference on War and National Responsibility*, edited by Knoll. Erwin. p. 71.

independently worth of protection, even if for the time being such an inspirational view constituted environmental avant-garde.

Progress in the realm of environmental international law ended up supporting claims against herbicidal warfare of the scientific community, represented by Galston. In the early 70s Nixon led the United States in attempting becoming the most relevant supporter of the movement for the nonproliferation of chemical and biological weapons (CBW) at a global level³¹⁵. Intuitively, the Stockholm Convention in 1972, the subsequent birth of the United Nations Environment Programme (UNEP), the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage, and several others, prepared the world for the “Decade of the environment”³¹⁶. A renewed attention and sensitivity enhanced within Western institutions and governments and within the United Nations system. The attention also included the issue of energy, especially after the 1973 oil shock, which triggered a new approach to the management of scarce energetical resources, which ended up with a transition by “addition”³¹⁷ instead of substitution of types of sources. Despite the mind-openness of the historical moment, the herbicidal warfare in Indochina continued.

Galston was also concerned about the need to prohibit herbicidal warfare to avoid future large-scale destruction of the environment, and cared to define this approach not as environmentalist, but as bioethical³¹⁸. In fact, his concern regarded the ethics of the Ranch Hand Operation, while the operation would not have constituted ecocide if it consisted in extraction of resources, differently from today’s conception of ecocide. Ecocide was essentially conceived as the environmental variant to genocide. Additionally, in 1970 American scientists condemned the state’s conduct in Indochina with the Resolution of the “International Meeting of Scientists on Chemical Warfare in Viet Nam”, called Orsay Resolution³¹⁹. The document incorporated genocide and ecocide in saying that “the volume of human loss and the widespread destruction of nature lead us to the conclusion that we are not only faced with genocide but biocide”³²⁰. However, according to Galston a legal differentiation between genocide and the destruction of the environment was needed, and, still, ecocide could comprehend humans as part of the environment. To Galston, ecocide was to be understood as a crime against humanity, and not simply a crime against natural elements, proving the higher

³¹⁵ ZIERLER D. (2011). *The Invention of Ecocide: Agent Orange*. University of Georgia Press. p. 2.

³¹⁶ GALSTON A. (1970). “Technology and American Power: the Changing Nature of War”. *War crimes and the American conscience. A transcription of the Congressional Conference on War and National Responsibility*, edited by Knoll. Erwin. p. 68.

³¹⁷ BONNEUIL C. AND FRESSOZ J. (2017). *The Shock of the Anthropocene*. New York. Translator, David Fernbach. p. 101.

³¹⁸ ZIERLER D. (2011). *The Invention of Ecocide: Agent Orange*. University of Georgia Press. p. 18

³¹⁹ ZIERLER D. (2011). *The Invention of Ecocide: Agent Orange*. University of Georgia Press. p. 20

³²⁰ Ivi. p. 21.

conceptual importance of humanity on nature. In the following years, the term “ecocide” proved to be versatile, incorporating various environmental struggles, more recently against global warming.

4.2 Legal evolution of the concept

The positions brought forward by Galston and his colleagues, triggered and enhanced the debate on biological weapons and on environmental security as never before, even though it mostly concerned the environmental implications of certain methods of warfare. The present sections will present the international legal instruments, such as conventions and draft articles, together with academic articles and institutional studies, which consider and analyze massive environmental destruction, departing from the aftermath of Galston’s speech, coming to the beginning of 2000s.

Approximately one year after the Congressional Conference a new legal project was approved. It was presented precisely by the United States, the United Kingdom, and the Soviet Union to the UN as a diplomatic move to gather the highest number of signatories possible. In December 1971, the UNGA adopted the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (BTWC)³²¹, which as of today has been signed by 183 states and ratified by 179. Interestingly, the employment of such weapons is prohibited in context of armed conflicts or hostilities both as first use and as retaliatory use. States are also obliged to destroy or divert to peaceful use all the weapons already in their possession. They cannot transfer to or incentivize other states in producing their own weapons and are encouraged to cooperate, but they are not subjected to forms of verification of the compliance to the treaty. The text of the Convention does not mention the environmental implications of the BTWs and does not prescribe obligations in an environmental sense. Environmental damage is only mentioned in the preamble by Tuzmukhamedov describing its destructive potential, defined as “multifaceted,” “heavy” and “irreversible”³²².

In 1972, in the context of the Stockholm Conference, the speech held by the Swedish Prime Minister Olof Palme urges the world for a change of pace, under the pressure of a brand-new sense of urgency and awareness of scarcity of natural resources. He stresses the need for an equitable social change, aware of the conflict of interests “inherent” in it. He also affirms how:

³²¹ Entered into force on 26 March 1975.

³²² *Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction*. (1972). London, Moscow and Washington. 10 April 1972. Introduction note By Bakhtiyar Tuzumukhamedov. available at https://legal.un.org/avl/pdf/ha/cpdpsbttwd/cpdpsbttwd_e.pdf.

*“[t]he immense destruction brought about by indiscriminate bombing, by large scale use of bulldozers and herbicide is an outrage, sometimes described as ecocide, which requires urgent international attention. It is shocking that only preliminary discussions of this matter have been possible so far in the United Nations and at the conferences of the International Committee of the Red Cross”*³²³.

Moreover, he stresses the immediate necessity to halt ecological warfare, as a step towards the long-run aim of widespread peace and security.

A position of no return was held by Richard A. Falk at Princeton University in 1973 in an article for the journal “Bulletin of Peace Proposals”. In the introduction, the legal expert argues about the issues of environmental warfare and states that “just as counterinsurgency warfare tends toward genocide with respect to the people, so it tends toward ecocide with respect to the environment”³²⁴, echoing the parallelism provided by Galston. The article operates a re-centering from the previous focus on the military consequences of environmental warfare to the implications of the natural system. Nevertheless, the absolute relevance of the document derives from the professor’s call for an evaluation of these practices’ violations on the basis of existing legal instruments and, more importantly, the call for the development of new, progressive, and forward-looking international legislation prohibiting massive destruction of the environment. Firstly, he argues for the need of consolidating new customary law on the matter, instead of relying on bilateral or multilateral agreements³²⁵. He lists four guiding principles: the principle of necessity, humanity, proportionality, and discrimination³²⁶. At Section V the author identifies the clarification of international law on the matter as a major task and, already back in 1973, advocates for the creation of a distinct crime of “substantially or even irreversibly destroy[ing] a distinct ecosystem”³²⁷. He proposes the creation of three legal instruments: an International Convention on the Crime of Ecocide, a Draft Protocol on Environmental Warfare and a Draft Petition to the Secretary General of the United Nations³²⁸. In the Draft Convention, Falk introduces the first comprehensive definition of ecocide, defining it as an international crime consisting of:

³²³ Olof Palme. (1972). Statement by Prima Minister Olof Palme in the plenary meeting. Swedish Delegation to the UN Conference on the Human Environment. 6th June 1972. Available at https://olofpalme.arbark.se/wp-content/dokument/720606a_fn_miljo.pdf

³²⁴ FALK R. (1973). “Environmental Warfare and Ecocide: Facts, Appraisal, and Proposals”. “Bulletin of Peace Proposals”. vol. 4, p. 2.

³²⁵ FALK R. (1973). “Environmental Warfare and Ecocide: Facts, Appraisal, and Proposals”. “Bulletin of Peace Proposals”. vol. 4, p. 5.

³²⁶ *Ibid.*

³²⁷ *Ivi.* p. 18.

³²⁸ *Ibid.*

“... any of the following acts committed with intent to disrupt or destroy, in whole or in part, a human ecosystem:

- (a) *The use of weapons of mass destruction, whether nuclear, bacteriological, chemical, or other;*
- (b) *The use of chemical herbicides to defoliate and deforest natural forests for military purposes;*
- (c) *The use of bombs and artillery in such quantity, density, or size as to impair the quality of the soil or to enhance the prospect of diseases dangerous to human beings, animals, or crops;*
- (d) *The use of bulldozing equipment to destroy large tracts of forest or cropland for military purposes;*
- (e) *The use of techniques designed to increase or decrease rainfall or otherwise modify weather as a weapon of war;*
- (f) *The forcible removal of human beings or animals from their habitual places of habitation to expedite the pursuit of military or industrial objectives*³²⁹.

Professor John H. E. Fried, expands the conceptualization of ecocide in 1973 by adding the ecological balance requirement³³⁰. In this sense, ecocide would be an action that destroys the environment at the present conditions, and carries an invalidating effect for the future, jeopardizing the ecological balance between living species, defined as the dependence on each other and on the environment. Moreover, Fried recognize the situation of absence of codification on the matter and compares it, once more, with the context of the creation of the crime of genocide³³¹. However, following its reasoning, the absence of explicit prohibition in international legal instruments does not imply that ecocide is legal under international law, as its significance is “well-understood”³³². Relevant is also its argument on the inadequacy and deficiency of the law of war in covering the ecocide issue³³³. To support this argument, he maintains that the law of war does not take in account

³²⁹ *Ivi.* p. 21.

³³⁰ FRIED J. H.E. (1972). “War by Ecocide: some legal observations”. The effects of Modern Weapons on the Human Environment in Indochina. *Bulletin of Peace Proposals*. June 1972. p. 43.

³³¹ *Ibid.*

³³² *Ibid.*

³³³ FRIED J. H.E. (1972). “War by Ecocide: some legal observations”. The effects of Modern Weapons on the Human Environment in Indochina. *Bulletin of Peace Proposals*. June 1972. p. 44.

the preservation of the ecological balance, intended as an entirety including nature, living species, people's identities, material and immaterial heritage, cultural patrimony and economically appreciable resources.

In 1974 ecologist Arthur H. Westing strongly advocates for the urgency of the establishment of a legal structure to punish the crime of ecocide. His fundamental intuition is that future legal instruments will need to address the effects and the targets of environmental degradation, rather than solely prohibiting the means and weapons responsible for that damage. The reason is clear: humanity has the capacity to develop new techniques and weapons very rapidly and the legal system cannot evolve at the same speed. Moreover, when the law of war does not focus on limiting the types of weapons, it mainly focuses on limiting wars to certain geographical zones or to the involvement of certain classes of men. On top of that, practices that heavily debilitate nature often do not come from military activities. However, contrary to Westing's prescriptions but still marking a further evolution, in 1975 the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)³³⁴ was adopted by the UNGA prohibiting tactics determining widespread, long-lasting, or severe effects in the territory of other states parties. No obligations derive from the present instrument regarding domestic environment.

A further evolutive moment seemed to be marked by the International Law Commission when, in 1976, it adopted the first nineteen articles of its Draft Articles on State Responsibility³³⁵ during its twenty-eighth session. In fact, at Article 19 paragraph 3(d) the ILC effectively included the crime of ecocide in the list of international crimes, albeit not using this terminology³³⁶. The article would prescribe that an international crime is an internationally wrongful act violating a fundamental interest of the international community as a whole. According to the Commission, it could result in aggression, violation of auto determination, slavery, genocide, and apartheid, and finally, a breach in the obligation of the "safeguarding and preservation of the human environment, such as those prohibiting massive pollution of the atmosphere or of the seas"³³⁷. The same view was also adopted by the Commission in its thirty-second session in 1980³³⁸. In the commentary of the article the Commission précises that the determination of the international crimes derives from an analysis of the international jurisprudence, which demonstrates that the four categories have been "elevated to

³³⁴ Adopted on 10 December 1976. Entered into force on 5 October 1978.

³³⁵ INTERNATIONAL LAW COMMISSION. (1976). "Report of the Commission to the General Assembly on the work of its twenty-eight session". *Yearbook of the International Law Commission*. Volume II, Part Two.

³³⁶ *Ivi.* p. 75.

³³⁷ *Ibid.*

³³⁸ INTERNATIONAL LAW COMMISSION. (1980). "Report of the Commission to the General Assembly on the work of its thirty-second session". *Yearbook of the International Law Commission*. Volume II, Part Two.

the rank of *jus cogens*³³⁹. In the section, it is also specified that the breach has to meet two requirements: the allegedly violated obligation has to be of “essential importance” and “serious” in entity³⁴⁰. It is worth noting that, at paragraph 15, the Commentary the Commission exemplifies the anthropocentric diffused conception of environment defining nature as a “common property of mankind”³⁴¹. However, the ILC demonstrates a renewed attention to the scarcity of natural resources and the consequent need for protection at paragraph 31, in which it underlines that it is not only war that threatens the natural ambient, but also the expansion of “consumer goods” and the “great masses of humanity [reaching] a higher standard of living”³⁴². This expansion represents a matter of concern for survival of the humankind. The Commission goes as far as stating that the norms on the subject and the future ones must be guarded as “peremptory”³⁴³ norms.

A different remarkable perspective has been presented by the Special Rapporteur Dr. Nicodème Ruhashyanlciko in his Study of The Question of The Prevention And Punishment Of The Crime Of Ecocide for the Sub-Commission on Prevention of Discrimination and Protection of minorities of the UN³⁴⁴. He expresses concern regarding an “exaggerated extension”³⁴⁵ of the concept of genocide to include ecocide. In his view, such an amplification could constitute a serious prejudice to the effective implementation of the 1948 Geneva Convention. The issue of ecocide must be placed in a context other than the one of genocide. In 1985, Whitaker presented a report³⁴⁶ on the question of the prevention and punishment of the crime of genocide to the above-mentioned UN sub-commission in which he analyses the 1948 Convention’s limits and suggests future developments, also concerning ecocide’s categorization. In dealing with the issue of ecocide, he presents the two contrasting views prevailing in the sub-commission: the first considering ecocide as included in the crime of genocide and the second considering ecocide as an independent crime against humanity³⁴⁷. He also underlines the need to further analyze the issue.

³³⁹ *Ivi.* Paragraph 67, p. 121.

³⁴⁰ *Ivi.* Paragraph 66, p. 120.

³⁴¹ *Ivi.* Paragraph 15, p. 101.

³⁴² *Ivi.* Paragraph 31, p. 109.

³⁴³ *Ivi.* Paragraph 32, p. 109.

³⁴⁴ UNITED NATIONS. (1978). “Study of the Question of the Prevention and Punishment of the Crime of Genocide”. Economic and Social Council, Commission on Human Rights, Sub-commission on Prevention of Discrimination and Protection of Minorities, Thirty-first session. Prepared by Ruhashyanlciko N, Special Rapporteur on Prevention and Punishment of the Crime of Genocide. 4 July 1978.

³⁴⁵ *Ivi.* paragraph 478, p. 134.

³⁴⁶ UNITED NATIONS. (1985). “Revised and updated report on the question of the prevention and punishment of the crime of genocide”. Economic and Social Council, Commission on Human Rights, Sub-commission on Prevention of Discrimination and Protection of Minorities, Thirty-eighth session. Prepared by Whitaker B., Special Rapporteur on Prevention and Punishment of the Crime of Genocide. 2 July 1985.

³⁴⁷ *Ivi.* paragraph 33, p. 17.

A further step forward is brought by the ILC in 1991 with the adoption of the Draft Code of Crimes Against the Peace and Security of Mankind³⁴⁸. The Draft Code comes as a response to the 1990 UNGA resolution 45/41 demanding the Commission to resume its previous work and discuss the issues of jurisdiction, together with the possibility of the institution of an international criminal court. The provisional text adopted in 1991 listed in the second part the twelve considered crimes against peace and security, and, at Article 26, the Commission included the “widespread, long-term and severe damage to the environment”³⁴⁹, without determining the punishment to be imposed for such a crime. However, in 1996 the ILC adopted the final text of the Draft Code including only five international crimes, namely, the crime of aggression, of genocide, against humanity, against United Nations and associated personnel and war crimes³⁵⁰. Several crimes, including ecocide, were left uncovered as independent and separate crimes by the Draft Code. In the context of the 2437th meeting, in fact, the Chair, Mr. Ahmed Mahiou, decided unilaterally not to put to the vote the option of considering ecocide as an independent crime³⁵¹, despite the opposition of Mr. Szekely. The latter claimed that the working group should be given the opportunity the formulation considering the willful and severe damage to the environment as separate crime, as proposed in the draft³⁵². As a consequence, the working group voted in favor of referring to the ecocide as a war crime twelve votes to 1, with 4 abstentions³⁵³. In the introduction to Chapter II of the Report of the International Law Commission of its forty-eighth session the decision of the Commission is partly explained in stating that this decision was a response “to the interest of adoption of the Code and of obtaining support by Governments”³⁵⁴, even if in 1993 the only states opposing were the United States of America, the United Kingdom and the Netherlands³⁵⁵. In this sense, the Commission preferred a wider consensus and a higher number of signatories states, rather than a more complete text without the actual effectiveness given by the consensus of states. A mention to the conduct of massive

³⁴⁸ INTERNATIONAL LAW COMMISSION. (1991). “Report of the Commission to the General Assembly on the work of its forty-third session”. *Yearbook of the ILC*. Volume II, Part Two.

³⁴⁹ INTERNATIONAL LAW COMMISSION. (1991). “Report of the Commission to the General Assembly on the work of its forty-third session”. *Yearbook of the ILC*. Volume II, Part Two. Draft Code of Crimes against the Peace and Security of Mankind, Part Two, p. 97.

³⁵⁰ *Ivi*. p. 42-56.

³⁵¹ INTERNATIONAL LAW COMMISSION. (1996). “Summary records of the meetings of the forty-eighth session”. *Yearbook of the ILC*. Vol.1. 6 May - 26 July 1996. pp. 13.

³⁵² *Ivi*. pp. 14.

³⁵³ *Ibid*.

³⁵⁴ INTERNATIONAL LAW COMMISSION. (1996). “Summary records of the meetings of the forty-eighth session”. *Yearbook of the ILC*. Vol.1. 6 May - 26 July 1996. Draft Code of Crimes against the Peace and Security of Mankind, Part Two. Crimes Against the Peace and Security of Mankind. p. 16-17.

³⁵⁵ International Law Commission. (1993). *Yearbook of the International Law Commission*. Vol. II, Pt. 1. Documents of the 45th session: United States of America: pp.102-105; United Kingdom: pp. 97-102; Netherlands: pp. 82-88.

damage to the environment as a crime is present under the legal category of war crimes. Article 20 introduced the conduct that constitute a war crime and paragraph (g) reports:

“In the case of armed conflict, using methods or means of warfare not justified by military necessity with the intent to cause widespread, long-term and severe damage to the natural environment and thereby gravely prejudice the health or survival of the population and such damage occurs”³⁵⁶.

As a result, again, only the damage caused in a context of armed conflict is considered and the element of “prejudice to the population” must be involved, excluding massive damage to the environment that do not have a direct consequence on the human population. This fact was justified with the aim of the Articles of maintaining peace and security between humans. Relevantly, the commentary underlines the requirement of the specific intent as mens rea to cause the damage to constitute the crime. Moreover, the damage must result from prohibited conduct. A member of the Commission, Mr. Christian Tomuschat prepared a paper³⁵⁷ at section G of which, he argues that the Commission did not take in account the emerging trends while deciding not to prescribe an independent crime of environmental damage³⁵⁸. Moreover, in his view the necessity of intent as mens rea in the article seems too restrictive and it would imply a heavy burden of proof on the prosecutors, but he concludes that no other option was actually practicable³⁵⁹. Concluding, as problematic and partial as they can be, the international legal advancements of the last three decades of the twentieth century marked a path toward an increasingly higher protection of the environment from massive degradation.

4.3 Why to criminalize ecocide as an independent crime

Precedent chapters presented the existing legal against mass environmental destruction and the present chapter has, so far, introduced the concept of ecocide and displayed the progressive character of international environmental legislation, as well as the role of pioneer personalities and courageous legal innovations. It is here due to conclude by discussing the reasons behind the necessity to institute an independent international crime of ecocide. The third chapter unveiled some of the

³⁵⁶ INTERNATIONAL LAW COMMISSION. (1996). “Summary records of the meetings of the forty-eighth session”. *Yearbook of the ILC*. Vol.1. 6 May - 26 July 1996. Draft Code of Crimes against the Peace and Security of Mankind, Part Two. Crimes Against the Peace and Security of Mankind. p. 54.

³⁵⁷ TOMUSCHAT C. (1996). “Document on crimes against the environment”. *Yearbook of the International Law Commission*. Vol II(1).

³⁵⁸ *Ivi*. p. 25.

³⁵⁹ *Ibid*.

possible damage to the environment relating to war and made clear why a provision criminalizing those actions was needed. However, much of the environmental damage is not conflict related, and as such, cannot fall under the scope of Article 8 of the Rome Statute³⁶⁰ on war crimes. Despite the awareness about the practical limitations to which international criminal law is subjected, in particular concerning the jurisdiction of the ICC, the international significance of such a provision would expand beyond the mere accounting of future prosecutions and would enrich the international legal system by the possibility of holding individuals accountable for their conduct. The importance of an independent crime of ecocide articulates on diverse levels: symbolic and substantial.

The symbolic level finds its bases on the “declaratory function”³⁶¹ of criminalizing environmental damage. The criminalization is frequently cited by experts as having a socio-pedagogical effect³⁶². International trials, in fact, would stigmatize a behavior as “socially unacceptable” and ease compliance with the norm³⁶³. According to Minkova, this function “offsets”³⁶⁴ the fact that a minimal number of persons are actually prosecuted for international crimes. However, a doubt can be cast about the adequacy of the social terrain on which the seed of ecocide is being sowed. The criminalization of ecocide is reasonably believed to be able to accelerate or enhance a social sentiment condemning ecocide, a sentiment which, however, must be already present. The Stop Ecocide Foundation also advocated for a “change in consciousness” in the introduction to their proposal for an independent crime of ecocide³⁶⁵. It is not straightforward to determine whether massive degradation of nature is a globally diffused moral and social fundamental value, especially when it comes to ecocide committed outside war-related contexts. The sentiment regarding genocide in the past century was one of a different impact.

In sum, an independent crime of ecocide would enrich environmental preservation with the essential basis allowing the ICC to prosecute individuals for non-military severe environmental harms and to pursue environmental justice. Individuals leading companies and organizations, for instance, would be prosecutable for having caused the massive harm, and be convicted to different kind of reparation, where effectively possible³⁶⁶. Rauxloh, while describing the international

³⁶⁰ Signed on 17 July 1998. Entered into force on 1 July 2002.

³⁶¹ GILLET M. “Environmental Damage and International Criminal Law”. *Sustainable Development*, by Jodoin and Cordonier Segger. p. 98.

³⁶² MINKOVA, L. G. (2023). “The Fifth International Crime: Reflections on the Definition of Ecocide”. *Journal of Genocide Research*. p. 74.

³⁶³ *Ibid.*

³⁶⁴ *Ibid.*

³⁶⁵ STOP ECOCIDE FOUNDATION (2021). “Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text”. Introduction, p. 3.

³⁶⁶ KILLEAN R. (2022). “The Benefits, Challenges, and Limitations of Criminalizing Ecocide”. International Peace Institute. Global Observatory.

criminal system in relation to environmental protection, highlights the current criminal regime of impunity for corporations for environmental massive harm. In particular, “national and international environmental law as well as self-regulation prove to be incapable of tackling the most serious environmental damage caused by corporations”³⁶⁷. Intuitively, if this development would to be implemented in the ICC system a fundamental jurisdiction amendment would be necessary, passing from jurisdiction on natural persons to a jurisdiction on legal persons. An international crime of ecocide would also be the perfect impulse to national governments to introduce the crime and prosecute it at a national level³⁶⁸. Finally, the effectiveness of the current system is undermined by the absence of a comprehensive convention on the rights of the environment, articulated in the most ecocentric approach possible. This international legal instrument would be profoundly needed to ensure environmental protection and the spread of environmentally positive values.

³⁶⁷ RAUXLOH, R. (2011). “The role of international criminal law in environmental protection”. *Natural Resource Investment and Africa's Development*. 443.

³⁶⁸ *Ibid.*

5 Beyond State Responsibility and War Crimes: a draft proposal for an independent Crime of Ecocide

In 2018 the Secretary General to the UN presented a report to the General Assembly³⁶⁹ on the deficiencies of the international environmental legal system. Specifically, the report mentioned the absence of a comprehensive legal instrument absorbing the general principles of environmental law and denounces the fragmented and sectoral approach still predominant in the legal environmental issues³⁷⁰. The sectoral approach is not followed by an integrative action, generating a coherence-wise inadequate framework. International environmental legal principles, such as the good neighboring principle, did consolidated in the legal framework towards multilateral agreements and judicial decisions of international courts through a relatively long-time span. Nevertheless, due to the lack of overarching regulation, the status of other fundamental principles and rules (transgenerational justice or polluter pays principles) has not consolidated yet. It is fundamental to note that poor coordination and lack of clarity in the legal framework result in inadequacies of the implementation system. Relevantly, the need for improvement of the international criminal legal structure to institute a specific and independent international crime against the environment is not mentioned by the report.

As previously discussed, legal consequences for environmental mass destruction of the environment are entailed mainly in terms of the law of the treaty or under the system of responsibility of states. The implementation and progress of such rules, when they are effective, requires a long-time span. Even the most direct means of perspective change, the progressive interpretation from international courts, requires a considerable amount of time. Under a mass violation of the environment, such a period can determine the survival of natural species and the well-being of human communities. Again, concerning criminal responsibility, massive harm to the environment is legally conceived only within the limits of the provisions of the war crime, according to the Rome Statute³⁷¹. Essentially, the crime is not independent, and it is not legally conceived in a context other than armed conflict, constituting a proper regulatory gap within the ICC jurisdiction. As maintained by Mègret, “there are problems with addressing harms against the environment as constitutive of international crimes because they can be made to fit within other crimes, rather than because they

³⁶⁹ UNITED NATIONS GENERAL ASSEMBLY. (2018). “Gaps in International Environmental Law And Environment-Related Instruments: Towards A Global Pact For The Environment”. Report of the Secretary General to the General Assembly. Seventy-third session, Agenda item 14. 30 November 2018. A/73/419.

³⁷⁰ *Ivi.* p. 42.

³⁷¹ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Art. 8(b)(iv).

are criminal in their own right”³⁷². Legal certainty is jeopardized by the vacuum on environmental crimes. For this reason, the belief in the need to implement a system of international individual criminal responsibility is escalating. Massive environmental harm is particularly complicated to prosecute since, up to date, responsibility must be invoked by other states or international organizations, and not by an array of international prosecutors who keep a close eye on possible alleged crimes against the environment. As Westing (1974) put it, “widespread and serious ecological debilitation -so-called ecocide- cannot be condoned”.

According to a joint report by Interpol and UN Environmental Programme (UNEP) since 2016 criminal activity against the environment has been the fourth largest crime committed all over the world³⁷³ and it has been increasing at a worrying rate of 5-7%.³⁷⁴ However, according to a report of the European Union Agency for Criminal Justice Cooperation (EUROJUST), environmental judicial cases constitute only the 1%³⁷⁵ of the casework of the agency, mostly concerning illegal traffic in waste, wild species or pollution crimes³⁷⁶. Moreover, other crimes such as organized crime, fraud, document forgery or money laundering are commonly strictly linked to the damage to nature. The “enslavement of the planet”³⁷⁷ is worth of criminal legal attention. The final judgement of the International Military Tribunal in Nuremberg in 1946 contains a fundamental passage concerning the necessity of an effective international criminal law system:

*“Crimes against International Law are committed by men, not by abstract entities, and only by punishing individuals who commit such crimes can the provisions of International Law be enforced”*³⁷⁸.

From this essential perspective comes the necessity of the provision of an international crime of ecocide which is independent from the context of armed conflict. Higgins herself argues that economic or administrative sanctions are not sufficient³⁷⁹ for the dimensions of the crime of ecocide. Furthermore, along with the penal sanction, a conviction to restoring nature, where feasible, is complementarily needed. A very convincing argument in this sense has been advanced by Higgins

³⁷² MÉGRET, F. (2011). “The Problem of an International Criminal law of the Environmental”. *Colum. J. Envtl. L.* p. 211.

³⁷³ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2016). “Strategic Report: Environment, Peace and Security: A Convergence of Threats”. December 2016.

³⁷⁴ *Ivi.* p. 20.

³⁷⁵ EUROJUST. (2021). “Report on Eurojust’s Casework on Environmental Crime”. January 2021. p. 7.

³⁷⁶ *Ivi.* p. 8.

³⁷⁷ HIGGINS P. (2015). *Eradicating Ecocide: laws and governance to prevent the destruction of our planet.* 2nd Ed 2015. Published by Shephard-Walwyn. p. 66.

³⁷⁸ INTERNATIONAL MILITARY TRIBUNAL. (1946). “Proceedings of the International Military Tribunal sitting at Nuremberg”. Germany. Part 22. 22nd August 1946 to 1st October 1946. Paragraph 447, p. 55.

³⁷⁹ HIGGINS P. (2015). *Eradicating Ecocide: laws and governance to prevent the destruction of our planet.* 2nd Ed 2015. Published by Shephard-Walwyn. p. 69.

when stating that introducing massive destruction of the environment as a fifth independent international crime, not merely a case constituting a war crime, implies the diffusion of accountability regarding the well-being of the planet to every human being, regardless of their administrative, financial, or military responsibility³⁸⁰.

Convinced about the essential necessity of an independent international crime of ecocide in late 2020 a group of Swedish parliamentarians, led by Magnus Manhammar and Rebecka Le Moin, have submitted three motions³⁸¹ calling Sweden to take an active and leading role in enhancing international cooperation and criminal legislation to institute an international crime of ecocide and addressing the need for its clear definition. As a result, Sweden, in quality of State Party to the Statute, has the ability to propose an amendment under Article 121 of the Rome Statute³⁸², by submitting it to the Secretary General of the UN. With this aim, in the same period of 2020 the Stop Ecocide Foundation summoned twelve lawyers with fundamental expertise in the environmental and/or criminal sector to institute the Independent Expert Panel (IEP) for the redaction of a legal definition of ecocide. The Panel convened in five sessions during six months, between January and June 2021, to redact the comprehensive definition. After being divided in sub-groups and assisted by teams for the legal research and drafting activity, lawyers presented their work in June 2021 to the attention of the international community, in general, and to the International Criminal Court, in particular³⁸³. In September 2024 UN Secretary General Antonio Guterres formally notified the submission by Vanatu to the ICC Assembly's Working Group on Amendments of the formal proposal to include the crime of ecocide in the Rome Statute³⁸⁴. This development comes after the public advocacy in this sense by the Deputy Prosecutor of the ICC Nazhat Shameem Khan to the conference "Promise of International Law in the Face of Ecological Crises" organized by UCLA Law Promise Institute Europe in May 2024³⁸⁵.

The proposal includes two amendments and one additional article to the Rome Statute. In particular, modifications concern formal adjustments in the Preamble and Article 5(1) to include the

³⁸⁰ HIGGINS P. (2015). *Eradicating Ecocide: laws and governance to prevent the destruction of our planet*. 2nd Ed 2015. Published by Shephard-Walwyn. p. 71.

³⁸¹ See Swedish Parliament documents. Kommitté motion V592 Motion till riksdagen 2020/21:391, av Elin Segerlind m.fl. (V), Ekocid, Enskild motion MP2002, Motion till riksdagen, 2020/21:2731, av Rebecka Le Moine m.fl. (MP, S), Sverige bör ta initiativ till Ekocidlagstiftning motion S1288 Motion till riksdagen 2021/22:3741, av Magnus Manhammar och Mattias Vepsä (båda S), "Sverige bör ta initiativ till Ekocidlagstiftning.

³⁸² INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Art. 121, p. 102.

³⁸³ STOP ECOCIDE FOUNDATION (2021). "Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text". Introduction, p. 2.

³⁸⁴ MOBILIZING AN EARTH GOVERNANCE ALLIANCE. (2024). "Pacific Island States propose that Ecocide be adopted as a crime under the International Criminal Court".

³⁸⁵ INTERNATIONAL CRIMINAL COURT. (2024). "The Promise of International Law in the Face of Ecological Crises". The office of the Prosecutor. "Keynote address by Deputy Prosecutor Nazhat Shameem Khan".

environmental issue and the crime of ecocide in the list of crimes under the jurisdiction of the Court. Considering that the present chapter will analyze the content and the merits of the proposal, it is due now to report the additional article proposed by the Panel in its entirety:

“Article 8 ter

Ecocide

1. For the purpose of this Statute, “ecocide” means unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts.

2. For the purpose of paragraph 1:

a. “Wanton” means with reckless disregard for damage which would be clearly excessive in relation to the social and economic benefits anticipated;

b. “Severe” means damage which involves very serious adverse changes, disruption or harm to any element of the environment, including grave impacts on human life or natural, cultural or economic resources;

c. “Widespread” means damage which extends beyond a limited geographic area, crosses state boundaries, or is suffered by an entire ecosystem or species or a large number of human beings;

d. “Long-term” means damage which is irreversible or which cannot be redressed through natural recovery within a reasonable period of time;

e. “Environment” means the earth, its biosphere, cryosphere, lithosphere, hydrosphere and atmosphere, as well as outer space”³⁸⁶.

The article clearly is based on and refers to the letter of precedent international legal instruments, but, differently from most of them, it does not consider ecocide only as a result of an armed conflict. In fact, various scenarios and context fall under the scope of the article since it does not contain limitations regarding the context. The article represents the “culmination of years of progress”³⁸⁷ in environmental legal thought. What is fundamental to underline from the beginning is that, for the way it is conceived, for the crime of ecocide to be committed a harmful outcome on the environment does not have to actually verify. According to the letter of the article, in fact, the endangerment of

³⁸⁶ STOP ECOCIDE FOUNDATION (2021). “Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text”. Proposed Amendments to the Rome Statute, p. 5.

³⁸⁷ MINKOVA, L. G. (2023). “The Fifth International Crime: Reflections on the Definition of Ecocide”. *Journal of Genocide Research*. Vol. 25, No. 1. p. 64.

the environment at “severe and widespread or long-term” level deriving from a potentially harmful act is sufficient for the conduct to amount to ecocide. Again, the act must be substantially likely to cause massive degradation of natural resources. Other crimes provided for by the Rome Statute follow the same logic. Under Article 6, for instance, the crime of genocide is configured if a person is proved to have the intent to destroy a given group, not only if they actually destroy such a group.

The academic debate on the proposed amendments has scattered since its publication. Relevantly, most of the criticism³⁸⁸, often accompanied by an actual endorsement, referred to the proposal as anthropocentric, in particular due to the element of wantonness. Minkova, also reports an opposing view when stating that the proposed amendment conveys a message of separation between the well-being of nature and of humanity³⁸⁹. The concern brought up by the author is frameable in the effort of progressive authors to foster an ecocentric approach that considers the environment as front-row element, instead of considering it only in function of the humanity’s needs and wants. However, not addressing environmental protection in and of itself, separated from humanity, runs the risk of considering, once again, nature merely as a resource to be exploited. The most progressive approach, in fact, would underline the necessity to protect the environment as such, not linking it at all to the necessities of well-being of human beings. Further criticism focuses on the extreme need for decolonization of jurisprudence. In an inspiring article Rovirosa-Madrado³⁹⁰ addresses the fundamental necessity to distance ourselves from the typical Eurocentric approach of environmental law and focuses on Indigenous people, whose self-determination is viewed as a *sine qua non* condition for the success of the criminalization of ecocide. Similarly, back in 2020 Eichler defined ecocide as a form genocide of Indigenous people³⁹¹. The environmental crisis the world is experiencing now would be yet “another form of colonization”³⁹² of “virgin land”³⁹³, and the criminalization of actions enhancing this crisis cannot avoid considering the voices and the auto-determination of the colonized people. In Rovirosa-Madrado’s view, despite the undoubted advancements of environmental law carried on by the 2021 proposal, the latter is insufficient as it does not explicitly recognize the right of Indigenous people to dispose of their land and to protect it

³⁸⁸ See Minkova, Heller, Rovirosa-Madrado.

³⁸⁹ MINKOVA, L. G. (2023). “The Fifth International Crime: Reflections on the Definition of Ecocide”. *Journal of Genocide Research*. Vol. 25, No. 1, p. 62.

³⁹⁰ ROVIROSA-MADRAZO C., “Eurocentrism and Anthropocentrism in International Law? Obstacles for the criminalisation of ecocide at the ICC”. *An International Crime of Ecocide: New Perspectives*. Symposium 2023. UCLA.

³⁹¹ EICHLER, LAUREN J. (2020). "Ecocide Is Genocide: Decolonizing the Definition of Genocide," *Genocide Studies and Prevention: An International Journal*. Vol. 14. p. 117.

³⁹² ROVIROSA-MADRAZO C., “Eurocentrism and Anthropocentrism in International Law? Obstacles for the criminalisation of ecocide at the ICC”. *An International Crime of Ecocide: New Perspectives*. Symposium 2023. UCLA. p. 21.

³⁹³ HIGGINS P. (2015). *Eradicating Ecocide: laws and governance to prevent the destruction of our planet*. 2nd Ed 2015. Published by Shephard-Walwyn. p. 66.

from the damaging neo-colonization of the West³⁹⁴. Appadoo adds on this by arguing that the criminalization of ecocide is essential to reach environmental justice, for the benefit of diverse cultural groups and of future generations³⁹⁵. The following sections will examine the elements of the 2021 IEP definition and consider the related observations of academic literature.

5.1 Legal elements of the IEP definition

5.1.1 "Severe"

Paragraph 2(b) of Article 8ter defines the threshold for the damage as “severe”, meaning that it would result in “very serious” negative consequences to the environment, and, as an alternative or together with harm to “human life or natural, cultural or economic resources”. The term “severe” has deep-rooted foundations in international legal framework and instruments. In fact, it can be found in the 1976 ENMOD Convention, in the 1977 First Additional Protocol to the 1949 Geneva Convention, in the 1991 International Law Commission draft of an international crime of massive damage to the environment, in the 1992 Rio Declaration and at Article 8(2)(b)(iv) of the Rome Statute. However, it is relevant to notice the lower threshold established by the IEP proposal compared to the one from Rome Statute. In fact, according to the Rome Statute, the requirements of severity, spatial extension and long-term duration must be met concurrently. The ENMOD Convention, on the contrary, prescribes that the verification of just one of the requirements is sufficient to constitute the criminal offence. The IEP proposal, instead, prescribes that the character of severity must always verify in the case of ecocide. Following the letter of Article 8ter, in fact, the requirement of severity must be present together with either wide spatial extension or long-term duration of the effects. Heller detects one of the reasons of the difference between the proposal and the current formulation of the Rome Statute: it is impossible to engage in an armed conflict without causing a certain level of harm and, therefore, in time of peace the threshold stands to reason to be higher³⁹⁶. Under another final understanding, the 1996 ILC Draft Code presented to the General

³⁹⁴ ROVIROSA-MADRAZO C., “Eurocentrism and Anthropocentrism in International Law? Obstacles for the criminalisation of ecocide at the ICC”. *An International Crime of Ecocide: New Perspectives*. Symposium 2023. UCLA. p. 19.

³⁹⁵ APPADOO K. A. (2023). “The link between ecocide and environmental justice: a study of SIDS and Latin American countries”. University of Mauritius. *An International Crime of Ecocide: New Perspectives*. Symposium 2023. pp. 6-7.

³⁹⁶ HELLER, K. J. (2021). “Skeptical Thoughts on the Proposed Crime of ‘Ecocide’ (That Isn’t)”. *Opinio Juris*. 23 June 2021.

Assembly prescribes at article 20 that the harm must constitute a grave prejudice to the existence of the group³⁹⁷.

Finally, in the view of the Panel, the harm is always required to be “serious or significant”³⁹⁸ to comply with the statute of the ICC. In fact, the latter institutes the Court to prosecute only the gravest international crimes. Regarding the seriousness of the damage, however, up to date, the Rome Statute only specifies the element of excessiveness of the aim compared to the initial military given aim. The vagueness of the term originates from the lack of clarity of the Rome Statute and could result in a problematic application. Moreover, the commentary does not provide practical definition in order to enlarge the applicability of the concept. What is certain is that “severe” is likely to be interpreted in the most comprehensive and ecocentric manner as it regards “any element of the environment”³⁹⁹.

5.1.2 “Widespread”

For what concerns the element of spatial diffusion, the commentary of the IEP is more detailed on the motives of its choice. The Panel decided to conceive “widespread” as diffused “beyond a limited geographic area”⁴⁰⁰. The commentary presents the lack of specification on the matter as an issue of international law. Firstly, the commentary explains the reason behind the decision not to specify a measurable range of space as a threshold to constitute ecocide. The Panel referred to the provision on the merits of the ENMOD Convention and to the Additional Protocol to the Geneva Convention. The two instruments defined “widespread” respectively as concerning “several hundred”⁴⁰¹ and “thousands”⁴⁰² of square kilometers. According to the Panel, similar considerations were not appropriate as they risked excluding concentrated severe damage to the environment. In addition, the origin of a damage cannot always be clearly defined, for instance in the case of pollution of toxic discharge and their effect on climate change. Not to mention the fact that environmental issues are mostly cross boundaries phenomena. The inspiration here is clearly the

³⁹⁷ INTERNATIONAL LAW COMMISSION. (1996). “Report of the Commission to the General Assembly on the work of its forty-eighth session”. Part Two, Draft Code of Crimes against the Peace and Security of Mankind, Crimes Against the Peace and Security of Mankind. *Yearbook of the International Law Commission*. Volume II, Part Two. p. 54.

³⁹⁸ STOP ECOCIDE FOUNDATION (2021). “Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text”. p. 8 .

³⁹⁹ *Ivi.* Art. 8ter(2)(b).

⁴⁰⁰ *Ivi.* p. 9.

⁴⁰¹ *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)*. Adopted on 10 December 1976. Entered into force on 5 October 1978. Understandings regarding the convention. p. 4.

⁴⁰² STOP ECOCIDE FOUNDATION (2021). “Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text”. p. 9.

customary international principle of prohibition of transboundary harm and good neighboring. The third case constituting widespread harm is the eventuality of damage to an entire ecosystem, species or large group of human beings. The Panel demonstrates to view humanity as part of the environment: damaging humanity would result in damage to the environment itself. Considerably, material geography ends up not constituting the only element to consider when evaluating the diffusion of the harm. The Court would also have to take into consideration relational element of the present ecosystem⁴⁰³. With this fundamental shift of perspective, the Panel demonstrates to reflect the complexity of the ecocide crime towards a renewed sensitivity. It is worth noting that only one of the cases is sufficient to configure a widespread damage and, therefore, the three (beyond limited area, crossing boundaries, and entire ecosystem) do not have to coexist.

5.1.3 “Long-term”

Alternatively to widespread damage, the act threatening ecocide must entail consequences for the environment which are measurable in a long-time span. Once more, the ENMOD Convention and its Understandings are useful instruments to grasp the interpretation of such an adjective. The Understandings regarding the convention describe a long-lasting negative effect on the environment as lasting “for a period of months, or approximately a season”⁴⁰⁴, not specifying, but including, the logically obvious case in which the time exceeds this span. Significantly different was the explanation on the matter of the commentary of the Panel which mentions that background material to the Additional Protocol to the Geneva Convention establishes the threshold to a duration of “decades”⁴⁰⁵.

The Panel takes a different approach and does not focus on the quantification of the time span. The authors highlighted the need for a qualitative approach. The temporal factor will need to be evaluated case by case, under different perspectives. The two thresholds posed by Article 8ter are (1) the impossibility to reverse the damage, or, alternatively, (2) the substantive unlikelihood of a possible restoration in a natural and independent manner within a “reasonable period of time”. Importantly, the commentary specifies that the “reasonable period of time” is not required to be

⁴⁰³ MINKOVA, L. G. (2023). “The Fifth International Crime: Reflections on the Definition of Ecocide”. *Journal of Genocide Research*. Vol. 25, No. 1. p. 73.

⁴⁰⁴ *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)*. Adopted on 10 December 1976. Entered into force on 5 October 1978. Understandings regarding the convention. p. 4.

⁴⁰⁵ STOP ECOCIDE FOUNDATION (2021). “Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text”. Commentary, p. 9.

waited in order to evaluate if it was possible to restore the damage. The centrality of restoration in the process was also underlined by pioneering Professor Higgins⁴⁰⁶. An argument can be made that, just like the geographical effects, the temporal duration of the consequences on the natural resources and ecosystems is not simple to be attributed to a single event. For instance, when several dangerous events occur, and not all of them respect the requirements of the crime of ecocide because of negligible dimensions, it would be, at least, complicated to ascertain the duration of the effects of the sole action constituting ecocide, and consequently to entail personal criminal responsibility. In other words, distinguishing the duration of different damaging events on a particular natural subject is likely to be problematic. Relevantly, the proposed amendments consider restoration as a key element to assessing the gravity of the criminal activity. Again, a fixed period of time would appear to be a stretch of the rules of nature that the article aims to protect.

5.1.4 “Acts”

The action constituting ecocide must be evaluated in the light of another requirement. In particular, the act must be either unlawful or wanton. The following sections will examine the thresholds to meet this requirement, but firstly it is fundamental to briefly report on what is considered as an act.

Firstly, the commentary mentions the fact that not all the acts likely to cause a “severe and widespread or long-term” degradation to the environment can fall under the definition of ecocide. Without further explanation it mentions that those acts are not necessarily “illegitimate, or even undesirable.” It is not clear under which circumstances an event which causes severe harm to the environment can be “desirable.” A clue is given from the following sentence. The Panel, in fact, affirms that international criminal environmental law must allow “legitimate development”⁴⁰⁷. The present sentence appears to be a compromise with the economic necessities of humanity, but it hardly fits in with such a progressist legal proposal.

Secondly, the commentary specifies that an act must be considered both as a positive action damaging nature, as well as an omission with that consequence. What is of fundamental importance for the present dissertation is the subsequent elucidation provided by the panel. The act can also be

⁴⁰⁶ HIGGINS P. (2015). *Eradicating Ecocide: laws and governance to prevent the destruction of our planet*. 2nd Ed 2015. Published by Shephard-Walwyn. p. 69.

⁴⁰⁷ STOP ECOCIDE FOUNDATION (2021). “Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text”. Commentary, p. 10.

constituted by aggregated actions or omissions⁴⁰⁸, in what could be argued to be cumulative ecocide. In this merit, the definition given by the panel in the commentary, however, fails to clarify the concept of cumulative actions leading to ecocide. For instance, it is not clear for how long the actions are allowed to cumulate before amounting to ecocide, but by means of interpretation according to the spirit of the law, it is safe to argue that this limit is surpassed once the damage reaches the level of “severe and widespread or long term” damage to the environment. A level that still, is very difficult to be legally proved.

5.1.5 “Unlawful”

As previously reported, in order to configure an ecocidal crime, an act must be either unlawful or wanton. The latter, declined in terms of recklessness, comes into play only when the act does not breach any legal provision, and, therefore, is considered to be lawful. The “unlawful” element is surely more direct in its interpretation than “wanton.” An act is unlawful when breaches binding provisions under at least one source of law. Distant from being as simple as it seems, the element of unlawfulness brings a further element of complexity. The IEP articles’ commentary, in fact, raises the issue of which sources of law must be considered in the case of ecocide. The Panel reasoned on the eventuality of considering only international law as source of obligations for states regarding environmental crimes. However, the Panel argued that obligations deriving from national legislation must also be considered for the configuration of the crime of ecocide, in light of the fragmentation and the vacuums of international environmental law⁴⁰⁹.

Posing a critique to the proposal, Heller⁴¹⁰ argues that the Panel could have considered as criminal the acts causing “severe and widespread or long-term” damage, regardless of their lawfulness or unlawfulness. According to him, the reasoning on the unlawfulness of an act functions in a progressist understanding only if the majority of the actions massively damaging the environment would be prohibited under precise legal instruments. Unfortunately, this is not the case⁴¹¹. Criticizing the proposal, Heller affirms that at the present status quo, the majority of the prohibitions would come from domestic legislation, which is not known to be particularly advanced in terms of

⁴⁰⁸ *Ibid.*

⁴⁰⁹ STOP ECOCIDE FOUNDATION (2021). “Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text”. Commentary, p. 10.

⁴¹⁰ HELLER, K. J. (2021). “Ecocide and Anthropocentric Cost-Benefit Analysis”. *Opinio Juris*. 26 June 2021.

⁴¹¹ *Ibid.*

environmental protection (exception made for countries such as New Zealand⁴¹² or Ecuador⁴¹³ that represent the avant-garde). The criticism of Heller focuses on the fact that considering the lawfulness of the act is intrinsically anthropocentric and does not consider the environment as of primal importance. Under these terms, environmental protection against major damage appears to be limited and faltering. Finally, a brief mention is due on the matter of authorization introduced by the European Directive 2024/1203 of April 2024⁴¹⁴. The Directive prescribes that the conduct shall be considered unlawful even if authorized by competent authorities of the Member State, when the authorization is obtained by fraudulent acts or corruption, or it is a “manifest breach of relevant substantive legal requirements.”

5.1.6 “Wanton”

The alternative element of “wantonness” is one of the most debated, especially in light of the meaning attributed by the Panel, considered by many as excessively anthropocentric. This element comes into play when a conduct is lawful but can potentially cause ecocide. The relevance of the clarification of the term derives from the high likelihood of dealing with actions that are not prohibited under legal instruments and the consequent resort to “wantonness” for the prosecution. The Commentary lightens the content of the word “wanton,” that practically constitutes a further *mens rea* requirement. A wanton act is considered as a “reckless disregard” for the negative consequences of the conduct on the natural resources which are disproportionately exorbitant compared to the advantages in social and economic terms. It is precisely the relational requirement in function of social and economic benefits that is considered as problematic and decentered from an ecocentric approach. The term finds its fundamentals in multiple legal instruments, and it is present in the Rome Statute⁴¹⁵ itself. In 2001 the International Criminal Tribunal for the Former Yugoslavia issued a decision in which it states that to be wanton a crime needs to be perpetrated by a person that “acted with the intent to destroy the property in question or in reckless disregard of the

⁴¹² NEW ZEALAND PARLIAMENTARY COUNSEL OFFICE. (2014). Te Urewera Act.

⁴¹³ OFFICIAL REGISTER OF THE REPUBLIC OF ECUADOR. (2008). Constitution of the Republic of Ecuador. October 20, 2008. Article 71: “Article 71. Nature, or Pacha Mama, where life is reproduced and occurs, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes”.

⁴¹⁴ EUROPEAN UNION. (2024). Directive (EU) 2024/1203 of the European Parliament and of the Council. 11 April 2024. “On the protection of the environment through criminal law and replacing Directives 2008/99/EC and 2009/123/EC”. In force. Article 3(1).

⁴¹⁵ INTERNATIONAL CRIMINAL COURT. (1998). Rome Statute of the International Criminal Court. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126.Art. 8(2)(a)(iv).

likelihood of its destruction”⁴¹⁶. The relational element is introduced by the Panel as an expression of the principle of sustainable development, following the decision of the ICJ in the Pulp Mills case⁴¹⁷ and further international legal instruments. The Panel affirms that sustainable development and activities with social benefits would entail massive damage. The Panel also underlines that the element of proportionality to exogenous circumstances is present in the current Article 8 on War Crimes, when establishing that the environmental damage needs to be unproportionate to the military necessity. The effort of the IEP to ground their decision on existing legal instruments does not convince those scholars who consider it too limiting. In fact, in the Panel’s proposal, actions that cause “severe and widespread or long-term” harm to the environment but are lawful and do not exceed the social and economic necessities would not be prosecuted as ecocide. Minkova criticizes the decision referring to the message that the provision of such a crime should convey⁴¹⁸. She argues that inserting this balance would restrain the “symbolic power”⁴¹⁹ of international criminal law. Together with the idealistic reasoning, the practical view of the European Legal Institute (ELI) is worth noting. According to one of its reports⁴²⁰, it would be “virtually impossible” to prove that a person was aware that the conduct was unproportionate to the benefits for the human community. Again, what the IEP seems to fail to consider is that humans are not the only ones benefiting from environmental resources, and, more importantly, humans will be harmed back by the severe damage to the natural elements, even though with substantive time gap. However, as is often the case within the realm of international law, progressive legal provisions are imperfect and fruit of compromise, but they mark inescapable reforming and turning points.

5.1.7 “Environment”

The legal meaning of environment and its evolution have been largely discussed in Chapter II. Out of clarity and completeness, at this point it is worth describing the concept of environment for the IEP. The definition of the Panel can be considered comprehensive as it includes nearly every natural component of the planet climate’s structure: “earth, its biosphere, cryosphere, lithosphere,

⁴¹⁶ UNITED NATIONS INTERNATIONAL TRIBUNAL FOR THE PROSECUTION OF PERSONS RESPONSIBLE FOR SERIOUS VIOLATIONS OF INTERNATIONAL HUMANITARIAN LAW COMMITTED IN THE TERRITORY OF THE FORMER YUGOSLAVIA SINCE 1991. (2001). Case No. IT-95-14/2-T. 26 February 2001. Trial Chamber. Paragraph 346, p. 98.

⁴¹⁷ INTERNATIONAL COURT OF JUSTICE. (2010). Judgment on Pulp Mills on the River Uruguay (Argentina v. Uruguay). 20th April 2010. paragraph 177, p. 64.

⁴¹⁸ MINKOVA, L. G. (2023). “The Fifth International Crime: Reflections on the Definition of Ecocide”. *Journal of Genocide Research*. Vol. 25, No. 1. p. 75.

⁴¹⁹ AKSENOVA, M. “Symbolism as a Constraint on International Criminal Law”. *Leiden Journal of International Law*. no. 2 (2017). P. 475–99.

⁴²⁰ EUROPEAN LEGAL INSTITUTE. (2023). “Eli Report on Ecocide, Model Rules for an EU Directive and a Council Decision”. p. 25.

hydrosphere and atmosphere, as well as outer space”⁴²¹. The Panel admits in the Commentary that the debate on how to define “environment” and even whether to define it has proved to be a complicated one. The reason is that, as of today, countries and organizations have not agreed upon a specific definition and, most importantly, its conception had to undergo various meanings and interpretations according to the time and sensitivity being. Because of this rapid evolution, avoiding attaching a meaning to the term would have allowed for a simpler evolution, but the necessities coming from the nature of criminal law have convinced the experts to provide a more precise legal framework.

5.1.8 Mens Rea of the IEP crime of ecocide

In order to be prosecute international crimes two elements have to coexist and to be determined: the *actus reus* and the *mens rea*. As discussed by Ausserladscheider Jonas, these requirements are rooted in the domestic criminal structure, but also considers the different nature of most of the international crimes, which are often considered as collective⁴²². The necessity for the simultaneous presence of both elements serves the fundamental democratic purpose of not depriving a person of its freedom without cause⁴²³. According to the legal Latin maxim “*actus non facit reum, nisi mens sit rea*”: an act does not configure a crime if the mind is not guilty⁴²⁴. However, the provisions on the matter of mens rea within the ICC jurisdiction are slightly different. Article 30(1) of the Rome Statute establishes that a person can be held criminally responsible for an actus reus only if it is committed “with intent and knowledge”⁴²⁵, unless otherwise provided. According to paragraph 2 of the Statute, a person meets the “intent” requirement if either they meant to “engage in the conduct” or they meant to cause the criminal consequence or, again, “is aware that it will occur in the ordinary course of events”⁴²⁶. The “knowledge” requirement is met if the person is aware that “a circumstance exists, or a consequence will occur in the ordinary course of events”⁴²⁷. The IEP decided to serve itself of the “unless otherwise provided” clause. In particular, the Panel decided that the mens rea established in Article 30 would set a too high threshold, considering the already high ones regarding the

⁴²¹ STOP ECOCIDE FOUNDATION (2021). “Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text”. p. 11.

⁴²² AUSSLERLADSCHEIDER, JONAS L. “Actus Reus and Mens Rea in International Criminal Law”. *Individual Criminal Responsibility for the Financing of Entities involved in Core Crimes*. pp. 40-48.

⁴²³ CONSTITUTIONAL COURT OF SOUTH AFRICA. (1997). *Coetzee S. V. and Others*. (CCT50/95). p. 132.

⁴²⁴ GARNER B. (1995). *A Dictionary of Modern Legal Usage*. 2 ed. Oxford University Press. p. 21.

⁴²⁵ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Art. 30(1).

⁴²⁶ *Ivi.*, Art. 30(2).

⁴²⁷ *Ivi.*, Art. 30(3).

consequences falling under the scope of the crime of ecocide. As a consequence, the Panel proposes an expansion of the mens rea including recklessness (term from common law systems) or *dolus eventualis* (term from civil law systems), defined as under the awareness of the substantial likelihood of causing “severe and widespread or long-term” damage to the environment. This provision would ease the burden of proof on the prosecutor, because it would not be necessary to prove that the alleged criminal had the intent or knowledge to cause the massive environmental harm. The Panel justifies the decision with the exceptional gravity of the crime of ecocide, by affirming that the *mens rea* is sufficiently narrow to entail the responsibility only to persons with “significant culpability for grave damage”⁴²⁸.

Nevertheless, the explanation does not satisfy several legal experts and academic authors, from the present and past. Already back in 1974, Westing affirmed that “intent may not only be impossible to establish without admission but, I believe, it is essentially irrelevant”⁴²⁹. In this regard, it is fair to note that such an affirmation was considering crimes against the environment committed in the context of military activity. In more recent time, Higgins proposed a definition of ecocide that would not include *mens rea*, asserting the following reasonings⁴³⁰. Firstly, the majority of the ecocidal activities entail responsibility for their consequences, not for the conduct itself. Furthermore, the gravity of the crime would justify the absence of the requirement of a criminal mind, while without it the provision would be “largely ineffective.” Lastly, the author reminds that the crime enters the legal structure mostly with a preventive aim, rather than a prosecuting one. Especially, this last justification is not convincing because both of the inherent mistaking significance and of the proved inefficiency of criminal provisions in terms of prevention of crimes. Again in 2013, Higgins and other authors reaffirmed the necessity to make ecocide a crime of strict liability, or without intent⁴³¹. According to the article, the majority of the cases of ecocide committed by the “hands” of corporations, for example, are consequential collateral damage to economic enterprises. Excluding the element of intent would mean to entail a positive obligation of pre-emptive action on companies. In this way, the crime would have a real pre-emptive effect.

On the contrary, Minkova argues that prescribing only for strict liability in the case of ecocide would set the bar too low considering the nature of the crimes under the jurisdiction of the ICC. A

⁴²⁸ STOP ECOCIDE FOUNDATION (2021). “Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text”. p. 11.

⁴²⁹ WESTING, A. H. (1974). “Proscription of Ecocide”. *Science and Public Affairs*. p. 26.

⁴³⁰ HIGGINS P. (2015). *Eradicating Ecocide: laws and governance to prevent the destruction of our planet*. 2nd Ed 2015. Published by Shephard-Walwyn. p. 68-69.

⁴³¹ HIGGINS, POLLY & SHORT, DAMIEN & SOUTH, NIGEL. (2013). “Protecting the planet: A proposal for a law of ecocide”. *Crime, Law and Social Change*. 10.1007/s10611-013-9413-6. p. 15.

person that would be convicted for “unimaginable atrocities that deeply shock the conscience of humanity”⁴³² must satisfy a certain degree of culpability. However, the author argues that several options are considerable in the continuum between strict liability and intent. Minkova reprimands the fact that the concept of “recklessness” or the provision of “awareness of substantial likelihood” were involved only in the commentary, and not in the actual text proposal. An interesting proposal in this sense is upheld by the researcher in stating that in order to lower the threshold of *mens rea*, the Panel could have proposed different penalties according to the gravity of the mental element: the intentional conduct could entail more serious penal consequences, than a reckless action. Further critique has been raised about the term “knowledge” as a too high threshold, but it does not consider that “knowledge” refers to a “substantial likelihood” and not to a certainty of creating a damage. Still, the expression “awareness of substantial likelihood” would be more appropriate for the meaning that the Panel expressed in the commentary, expressing a lower degree of confidence than “knowledge.” The ambiguity risks posing a threat to the effectiveness of the provision under the *nullum crimen sine lege* principle. Heller reaches similar conclusion in defining the mental element established by the Panel as “deeply confusing”⁴³³. He reports that the ICC has interpreted the element of “knowledge” at Article 30(3) of the Rome Statute as “virtually certain”, that is quite different from the “substantial likelihood” of the IEP proposal. According to Heller, in the proposed article, “knowledge” would actually mean “recklessness” or *dolus eventualis*, and the decision to endorse the former by the IEP will not serve the cause of broader adoption by states, because they will intend the actual meaning. Finally, Gray proposes a similar point of view, when stating that the fault for ecocide would have to be conceived as a strict liability one. According to the author, this conception would “encourage preventive behavior, advance the ‘polluter pays’ and ‘precautionary’ principles, and simplify issues of proof of knowledge, intent, and causation”⁴³⁴. Similarly to Minkova’s proposal, Gray distinguishes into willful, reckless, or negligent conduct. Nevertheless, he specifies that an ecocidal conduct would result in a crime as it violates the obligation of prevention of environmental harm, and “the lack of motive is irrelevant”⁴³⁵. Again, the IEP decision must be framed into the context of a political objective to increase the number of ratifications.

⁴³² INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Preamble.

⁴³³ HELLER, K. J. (2021). “Skeptical Thoughts on the Proposed Crime of ‘Ecocide’ (That Isn’t)”. *Opinio Juris*. 23 June 2021.

⁴³⁴ GRAY A. M. (1995). “The international crime of ecocide”. *California Western International Law Journal*. Vol. 26. No. 2, Art. 3, p. 216.

⁴³⁵ *Ivi*. p. 269.

5.2 General limits of the IEP proposal

As important as it is, the Panel's proposal is subjected to limitations on its effectiveness, some of which are intrinsic to the Rome Statute. The most relevant limit of the proposal, in fact, does not actually derive from the merits of the definition of ecocide. This limit is due to the nature of the ICC and its jurisdiction. In fact, as previously discussed, the Court's jurisdiction applies essentially (but not only) on State Parties. Exception made for the opportunity to accept the jurisdiction of the Court only for a period of time and a particular set of events, the Court has the power to adjudicate only cases that took place on the territory of a State Party or in which a citizen of a State Party is the prosecuted subject. Unfortunately, some of the widely known largest polluting countries (United States, China, Russia, and India)⁴³⁶ are not partes to the Statute of Rome since they either did not sign or signed but did not ratify, the legal instrument. Higgins⁴³⁷ responds to this in highlighting that, if added to the ICC Statute, the crime of ecocide would rapidly gain the status of *erga omnes* provision, and, therefore, constitute an obligation also for countries that are not partes to the Statute *per se*. Together with this first intrinsic restriction, it is also worth underlying that the competence of the ICC is one of residual nature. In fact, the Court has the legal basis to intervene in prosecuting and judging a crime if, and only if, states are unwilling or unable to investigate and prosecute⁴³⁸. Hansen also argues against the provision of ecocide in the ICC statute claiming that when the Court distances itself from the "rules-based international order" it has a lower rate of success in delivering successful outcomes in terms of prosecution⁴³⁹. However, this consideration regarded only environmental crimes in conflict zones. These elements help us to put into perspective the impact of the law but should not discourage the international community from taking all possible measures to limit, better avoid, environmental degradation.

As hereinbefore considered, even if justified by the special environmentally heinous nature of crimes under the jurisprudence of the Court and by the preference for ratification and completeness, the *mens rea* requirement is particularly problematic and incoherent with the interpretation of other articles of the Rome Statute. Several proposals in the sense of improving this concept have been upheld, but no modification has been implemented by the Panel. The main concern is the meaning

⁴³⁶ RITCHIE H. ROSADO P. AND ROSER M. (2023). "CO₂ and Greenhouse Gas Emissions".

⁴³⁷ HIGGINS P. (2015). *Eradicating Ecocide: laws and governance to prevent the destruction of our planet*. 2nd Ed 2015. Published by Shephard-Walwyn. p. 70.

⁴³⁸ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Art. 17(1)(a).

⁴³⁹ HANSEN, T. O. (2024). "Accountability for Environmental Crimes in Conflict Zones: Why Expanding the International Criminal Court's Jurisdiction Is not the Best Solution". *New York University Journal of International Law and Politics* (JILP). vol 56(3). p. 4-5.

to be attributed to “knowledge,” “recklessness,” and “substantial likelihood.” In Heller’s view, a more legally coherent version would be:

“1. For the purpose of this Statute, “ecocide” means acts committed with awareness that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts”⁴⁴⁰.

In an enlightening article, Chiarini gathers several in-depth procedural and substantial amendments to the IEP proposal, while carefully clarifying to support and endorse the proposal definition. Chiarini argues that by inserting the “open clause”⁴⁴¹, the experts admitted that the proposal would need further integration, especially concerning procedural issues. For instance, the first proposal regards the eventuality of the withdrawal of a country from the Statute. Under present conditions, in the case of a withdrawal the provisions of the Statute would apply for one year after the submission of the withdrawal to the UN Secretary General. In the case of ecocide and because of its long-term character, Chiarini proposes a time span of five years in the case of withdrawal. Continuing, the most engaging Chiarini’s proposal would be the provision of the “aggravated crime of ecocide.” This crime would configure when an act or omission cause “substantial impact on greenhouse gas emissions or climate change”⁴⁴². In the case of aggravated ecocide, Chiarini proposes a reduction of the burden of proof on the prosecutors of the ICC, who would have to prove the crime under “sufficient basis” to proceed to the preliminary examination, instead of “reasonable basis”. In this additional provision, Chiarini does not follow the path of the Panel. In fact, he considers the actual results of the conduct as *actus reus*, while the definition of ecocide of the Panel would consider also the “simple” endangerment of the environment. Furthermore, he proposes to base the competence of the Court on reports from specialized UN bodies, such as the Intergovernmental Panel on Climate Change (IPCC), the Special Rapporteur on the Promotion and Protection of Human Rights in the context of Climate Change, or the Special Rapporteur on Human Rights and the Environment.

A last consideration is worth mentioning regarding the advances proposed by the Council of Europe in terms of requirements for the material element of environmental crime. In fact, the Draft Convention on the Protection of the Environment through Criminal Law prepared in May 2023 by the Committee of Experts on the Protection of the Environment through Criminal Law (PC-ENV)

⁴⁴⁰ HELLER, K. J. (2021). “Skeptical Thoughts on the Proposed Crime of ‘Ecocide’ (That Isn’t)”. *Opinio Juris*. 23 June 2021.

⁴⁴¹ CHIARINI G. (2021). “Ecocide and International Criminal Court Procedural Issues: Additional Amendments to the ‘Stop Ecocide Foundation’ Proposal”. p. 14.

⁴⁴² CHIARINI G. (2021). “Ecocide and International Criminal Court Procedural Issues: Additional Amendments to the ‘Stop Ecocide Foundation’ Proposal”. p. 18.

of the Council of Europe mentions the possibility of including another parameter to the crime of ecocide: the irreversibility of the damage. The IEP proposal considers this element as a threshold to determine the long-term duration of the environmental damage, but it does not have an independent character. Under the Council of Europe's proposal, this element could be added to the requirements of severity and alternatively to the requirements of spatial expansion or long duration of the damage, enlarging the cases falling under the scope of the article, and, therefore, environmental protection. The consideration on the threat of continuation or reiteration of the damage must also be addressed by the competent organs. Finally, regarding international criminal law more in general, worth of a brief mention is the proposal from Higgins for a milestone advancement: an International Environmental Court⁴⁴³. The court would have the benefit of relying on a specialized expertise in a field, the environmental scientific field, which can turn out to be extremely technical.

To conclude, the path toward the IEP proposal has been contorted and devious, but this did nothing but enrich the debate on the issue of an international crime of ecocide. The IEP definition of ecocide can be judged as partial and, in some sense, accommodating. What is certain is that, up to date, it is the most complete, coherent, and likely-to-succeed proposal that has been put forward at the international level, and as such, must be constructively challenged aiming at its improvement and to reach the closest possible compromise to the sole interest of environmental protection.

⁴⁴³ HIGGINS P. (2015). *Eradicating Ecocide: laws and governance to prevent the destruction of our planet*. 2nd Ed 2015. Published by Shephard-Walwyn.

6 The vacuums of International Criminal Law on ecocide under territorial occupation and cumulative ecocide: the case study of the Occupied Palestinian Territory

The present dissertation discussed the legal meaning, development, and status of the international crime of ecocide, as well as the limits of the current international environmental criminal system and the proposals for its enlargement. The present section will proceed advocating for the necessity of the institution of the environmental crime by examining a specific case-study. The case under scrutiny is the environmental degradation of the Palestinian territory resulting from the territorial occupation from the State of Israel. It will be argued that, in the current status quo, the related environmental harm would hardly fall under the scope of the Rome Statute, despite its severity. Essentially, this would demonstrate the vulnerability of the present international criminal system for the protection of environment and the necessity for the institution of the crime of ecocide. The present chapter will encompass three sections, gradually accompanying the reasoning on the need for an independent crime of ecocide. The first will address the main sources and provisions in terms of international law on occupation, as well as the recent legal developments regarding the policies and the status of the Israeli occupation of Palestinian territory. The following section will address the distinct levels of environmental damage to which the Palestinian territories have been subjected prior the breakout of the new phase of the conflict inaugurated by the 7th of October 2023, and, subsequently but separately, the environmental harm deriving from conduct post-7 October. Concluding, the last section will put forward legal argumentations supporting the two main thesis of this chapter, namely: (1) the uncertainty (at best) regarding the capacity of situations threatening to cause or causing severe environmental harm in a context other than conventional war to fall under the scope of Article 8(b)(iv) is, in itself, a reason for the necessity of a fifth international environmental crime and, (2) the material element of the crime needs to be conceived both as a single act and as a cumulative commission of acts.

6.1 Territorial occupation in International Law and the case of the Palestinian territory

6.1.1 International Law on occupation

Before addressing the specific case study, it is due to deal with the legal meaning of occupation under international law and the circumstances that determine its lawfulness. To this purpose, it is essential to bear in mind the following relevant obligations under customary law and set out in the UN Charter. Under Article 2(4) of the UN Charter, states are obliged to refrain from territorial acquisition by means of threat or use of force and, under article 41(2) of the Articles of States for Internationally Wrongful Acts and customary law, they shall not to recognize situations generated by serious breaches of obligations arising under a peremptory norm of general international law. Again, under article 1(2) of the UN Charter and customary law, peoples are entitled to the right to self-determination.

Coming to the definition of “occupation”, the ICJ, in its 2004 Advisory Opinion on the Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, declares that a “territory is considered occupied when it is actually placed under the authority of the hostile army, and the occupation extends only to the territory where such authority has been established and can be exercised” under customary international law⁴⁴⁴. In its judgment on Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda) the Court establishes that an occupying power is required to exercise an authority “in fact established and exercised”⁴⁴⁵, defined in the 2024 Advisory Opinion as “effective control”⁴⁴⁶ over a territory. The effective control can be independent from a military presence on the, therefore, occupied territory⁴⁴⁷. As long as the state “has the capacity to enforce its authority”⁴⁴⁸, it can hold the status of occupying power. To cite Article 42 of the Regulations Respecting the Laws and Customs of War on Land annexed to the Fourth Hague Convention of 18 October 1907, the *sine qua non* requirement to determine a status of occupation is whether the authority “has been established and can be exercised”⁴⁴⁹. With

⁴⁴⁴ INTERNATIONAL COURT OF JUSTICE. (2004). *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory. Advisory Opinion*, p. 201. para. 163.

⁴⁴⁵ INTERNATIONAL COURT OF JUSTICE. (2005). *Judgement on Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda)*, Para. 173.

⁴⁴⁶ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the Legal Consequences arising from the Policies and Practices of Israel in the Occupied Palestinian Territory, including East Jerusalem. Para. 90.*

⁴⁴⁷ *Ivi*, para. 91.

⁴⁴⁸ *Ibid.*

⁴⁴⁹ *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. Entered into force 26.01.1910. art. 42.

occupation arise several obligations for the occupying power, essentially under international human rights law and international humanitarian law, mainly under the UN Charter, the 1949 Geneva Convention relative to the Protection of Civilian Persons in Time of War and under customary international law. The fundamental legal assumption to be underlined at this stage is that occupation is conceived essentially as “a temporary situation to respond to military necessity, and it cannot transfer title of sovereignty to the occupying Power”⁴⁵⁰. What is more, “the occupying Power bears a duty to administer the territory for the benefit of the local population”⁴⁵¹. The duties and capacities of the occupying power do not vary reflecting different contextual elements of the occupation⁴⁵². These preliminary assumptions are reflected in the humanitarian and human rights provisions examined hereafter.

For what concerns the Geneva Convention, a preliminary clarification is needed regarding its applicability in the specific case. It is applicable if an occupation takes place in the context of a war between two contracting parties. The Convention is applicable on the OPT because they have been occupied as a consequence of an armed conflict broke out involving three contracting parties: Egypt, Jordan, and Israel. Moreover, the ICJ has argued that “a great many” of the provision of the 1949 Convention are “to be observed by all States whether or not they have ratified the conventions that contain them, because they constitute inviolable principles of international customary law” with *erga omnes* character. Proceeding in the analysis of the international norms on occupation deriving from the Convention, Article 2 states that the provisions contained in the Convention are to be intended as applicable also in cases of occupation, not only declared war or armed conflict. Continuing, Article 6 prescribes that “in the case of occupied territory, the application of the present Convention shall cease one year after the general close of military operations”⁴⁵³. However, at paragraph 107 of the Advisory Opinion on the Legal Consequences arising from the Policies and Practices of Israel in the Occupied Palestinian Territory, and on the basis of the preparatory work of the Geneva Convention, the ICJ is clear in stating that in the case the “local authorities have not resumed governmental functions, the occupying Power is not released from the obligations that arise out of its continued effective control over the occupied territory”⁴⁵⁴. Again, the ICJ states that the Hague Regulations do not provide for a temporal limitation to the applicability of occupation law⁴⁵⁵.

⁴⁵⁰ INTERNATIONAL COURT OF JUSTICE. (2024). Advisory Opinion on the Legal Consequences arising from the Policies and Practices of Israel in the Occupied Palestinian Territory, including East Jerusalem. Para. 105.

⁴⁵¹ *Ibid.*

⁴⁵² *Ibid.*

⁴⁵³ *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. Entered into force 26.01.1910. art. 6.

⁴⁵⁴ INTERNATIONAL COURT OF JUSTICE. (2024). Advisory Opinion on the Legal Consequences arising from the Policies and Practices of Israel in the Occupied Palestinian Territory, including East Jerusalem. Para. 107.

⁴⁵⁵ *Ibid.*

Continuing, Section III of the Geneva Convention deals with the issue of general protection of populations in the occupied territories and prescribes the most important obligations for occupying powers. Initially, it is established that no change introduced by the occupation in terms of government, no agreement and no annexation can hinder the benefits of protected persons under the Convention. The articles continue prohibiting forcible transfers and deportations, detainment of people in dangerous areas, obliging the Occupying power to protect children and their education, as well as real or individual property, public officials, and judges, to ensure food and medical supply, and the availability of health services, together with many other provisions. These provisions prove, once again, that occupation is conceived as a temporary situation, even if no temporal limit is *a priori* defined.

6.1.2 Legal considerations on the occupation of Palestinian territory

As previously mentioned, the present chapter will address the case of the Occupied Palestinian Territory and the environmental damage to which it has been subjected aiming at arguing in favour of the necessity for an independent ecocide crime. For the sake of completeness and clarity, the discussion cannot refrain from examining the legal issues originating from Israeli occupation of Palestinian territory departing from its very legal status. Addressing the legality of the occupation is essential for diverse reasons, but one is more legally relevant than others: in light of the 2001 ARSIWA⁴⁵⁶, every wrongful act entails the international responsibility of the breaching state⁴⁵⁷. Finding Israel's conduct in the OPT illegal would entail its international responsibility, meaning binding it to different obligations. In fact, the regime of state responsibility prescribes secondary obligations for the state committing a wrongful act, namely: cessation of the wrongful conduct, assurance of non-repetition and full reparations (throughout restitution, compensation, or satisfaction)⁴⁵⁸. Moreover, the state remains under a "continued duty of performance" of the breached obligation. The legal determination of the territorial occupation itself and of its legality is – to say the least - controversial in the international community. The debate between IL scholars and international organizations has scattered given the continuously evolving state of affairs. Considering the extremely legal delicacy of the issue, the following considerations will be based on the ICJ Advisory Opinion on the Legal Consequences arising from the Policies and Practices of

⁴⁵⁶ INTERNATIONAL LAW COMMISSION. (2001). *Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries*. Instrument codifying the international customary law on the regime of State Responsibility.

⁴⁵⁷ *Ivi*, Article 1.

⁴⁵⁸ *Ivi*. Part Two, Chapter I-II.

Israel in the Occupied Palestinian Territory of the 19th of July 2024, given the global authoritative character of the Court and the recency of the opinion, but they will also consider further prominent sources. The Advisory Opinion has been requested by the United Nations General Assembly (UNGA) with resolution 77/247 on 30 December 2022, under Article 96 of the UN Charter. The UNGA requests the legal opinion of the ICJ on the following issues:

“(a) What are the legal consequences arising from the ongoing violation by Israel of the right of the Palestinian people to self-determination, from its prolonged occupation, settlement and annexation of the Palestinian territory occupied since 1967, including measures aimed at altering the demographic composition, character and status of the Holy City of Jerusalem, and from its adoption of related discriminatory legislation and measures?”

“(b) How do the policies and practices of Israel referred to in paragraph 18 (a) above affect the legal status of the occupation, and what are the legal consequences that arise for all States and the United Nations from this status?”⁴⁵⁹”

Essentially, the first question regards the policies and practices of Israel allegedly consisting in the violation of right to self-determination of the Palestinian people, the prolonged occupation served by settlement and annexation policies and in the adoption of discriminatory measures. The question itself assumes the illegal character of the policies, that, instead, is for the Court to be found. The Court, then, will examine the legality of the policies under international law, without needing to establish a fact-finding mission, but based on the information collected. The second question's crucial point requests the Court to judge whether the policies and practices of the State of Israel in the OPT affect the lawfulness of the occupation itself, and then, to determine the consequences for third states and the United Nations.

The Advisory Opinion comes more than a century after the breakout of what can be seen as the preliminary stage of the Palestinian issue. It was back in 1919, in fact, that the League Covenant establishes that “certain communities formerly belonging to the Turkish Empire [which] have reached a stage of development where their existence as independent nations can be provisionally recognized” will be subject to a mandate⁴⁶⁰. The 1920 San Remo Resolution establishes that Palestine will be one of those territories subject to mandate⁴⁶¹ and the UNGA resolution A/292

⁴⁵⁹ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the Legal Consequences arising from the Policies and Practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*, para. 1

⁴⁶⁰ *The Covenant of the League of Nations*. (1919). Including Amendments adopted to December 1924. Article 22.4.

⁴⁶¹ *The San Remo Resolution* (1920). Paragraph b.2.

establishes that the mandatory state will be the British Empire⁴⁶². In 1922 and 1928 the borders of the mandate's territory were set by a British memorandum⁴⁶³ and the Anglo-Transjordanian Treaty⁴⁶⁴. After more than two decades under British mandate, the United Kingdom renounced to the mandate and the General Assembly Resolution 181 (II) recommending a Plan of Partition of the mandatory territorial between and Arab state and a Jewish one, with a special international status in Jerusalem⁴⁶⁵. The plan was never accepted by the Arab population and other Arab states, while Israel proclaimed its independence on the 14th of May 1948⁴⁶⁶. In response to this situation, the two sides entered an armed conflict, settled only in late 1948 with an armistice establishing the so called "Green line" demarcating the border between Israel and Palestine⁴⁶⁷. A new bloody conflict broke out in 1967 between Israel on one side and Egypt, Syria, and Jordan on the other. The new conflict saw the occupation of all the Palestinian territories previously under British Mandate from the Israeli forces. The very same year the UN Security Council adopted Resolution 242 calling for the withdrawal of Israeli forces from the occupied territories, underlying the territorial inviolability and political independence of every state⁴⁶⁸. Once again, in 1971 the UNSC adopted Resolution 298 condemning Israeli measures supporting settlements in Palestinian territories and aiming at higher control on Jerusalem⁴⁶⁹. Following a further armed confrontation in 1973 between Egypt, Syria, and Israel, the UNSC called for a cease-fire respecting Resolution 242⁴⁷⁰ and in 1974 the UNGA recognized the right to self-determination to the Palestinian people⁴⁷¹. It was only in 1988 that the Palestinian Liberation Organization proclaimed the establishment of the State of Palestine⁴⁷². In 1995 Oslo II Accords provided a new status quo in occupied West Bank. The territory would be divided into Area A, B and C, respectively: 18% of the land and under civil and military authority of Palestine, 22% of the land and under Palestinian authority for civil matters and Israeli for military

⁴⁶² COUNCIL OF THE LEAGUE OF NATIONS (1922). Question of Palestine, text of mandate. Note by the Secretary-General. C.P.M.466- C.529.M.314.1922.VI.-C.667.M.396.1922.VI.

⁴⁶³ LEAGUE OF NATIONS (1922). "Memorandum by the British Representative". Named as "Transjordan Memorandum". Geneva, September 23, 1922.

⁴⁶⁴ AGREEMENT BETWEEN HIS MAJESTY AND THE AMIR OF TRANS-JORDAN. (1928) Jerusalem. February 20, 1928. Preamble. Article 18.

⁴⁶⁵ UNGA. (1947). "Resolution Adopted on the Report of the Ad Hoc Committee on the Palestinian Question". Res. 181(II).

⁴⁶⁶ THE DECLARATION OF THE ESTABLISHMENT OF THE STATE OF ISRAEL (1948). Official Gazette: Number 1; Tel Aviv, 5 Iyar 5708, 14.5.1948.

⁴⁶⁷ UNITED NATIONS.(1948) *Israel-Jordan General Armistice Agreement*. Cablegram from UN Acting Mediator, Map (Green Line). Document S/1302/REV.1 1/.

⁴⁶⁸ UNSC. (1967). Resolution 242 on a peaceful and accepted settlement of the Middle East situation. 1382nd meeting of 22 November 1967.

⁴⁶⁹ UNSC. (1971). Resolution 298 on the status of Jerusalem. 582nd meeting of 25 September 1971. S/RES/298(1971).

⁴⁷⁰ UNSC. (1973). Resolution 337(1973). 15 August 1973.

⁴⁷¹ UNGA. (1974). Resolution 3236 (XXIX). Question of Palestine.

⁴⁷² PALESTINE NATIONAL COUNCIL. (1988). Declaration of independence. 15 November 1988 (see annexes II and III). From Letter dated 16 November 1988 from the Deputy Permanent Observer of the Palestine Liberation Organization to the United Nations addressed to the Secretary-General.

matters, and 60% of the territory under full Israeli control⁴⁷³. In early 2000s Israel began constructing a fence, which the ICJ considered as contrary to international law in its 2004 Advisory Opinion⁴⁷⁴. By 2023, about 700,000 Israeli settlers reside between the occupied West Bank and West Jerusalem⁴⁷⁵. Two more resolutions were adopted by the UNSC, 2334 (2016) and 2735(2024), urging for a peace settlement and the two-state solution⁴⁷⁶. In May 2024, the UNGA adopted Resolution ES-10/23 declaring that Palestine “qualifies for a membership in the United Nations (...) and should therefore be admitted to membership in the United Nations”⁴⁷⁷. Before diving into the opinion, it is overdue to specify that the territorial scope of the advisory opinion is identified in the West Bank, East Jerusalem and the Gaza Strip, considering them as a single territorial unit, “the unity, contiguity and integrity of which are to be preserved and respected”⁴⁷⁸. For what concerns the temporal scope, the Court considered measures taken since 1976, but reserving the right to have regard to prior facts as far as they are necessary for its functions⁴⁷⁹. The Court specifies that the policies put into action after the 7th of October 2023 have not been considered.

The General Assembly request’s fundamental assumption is that Israel is occupying the, accordingly defined, Occupied Palestinian Territory, but the issue must here be elaborated in its legal terms. Under Israel pivotal argumentation, it would not be bound to the law of belligerent occupation because of the impossibility to legally apply the Geneva Convention IV and its provisions to the specific case since the West Bank was not territorial land of the contracting parties, being part of Jordan at the time⁴⁸⁰. However, Israel maintains to apply the Convention on a *de facto* basis. The law of belligerent occupation, in fact, would apply in any case since the Hague Regulations are binding to the State of Israel in quality of their customary character⁴⁸¹. Under article 42 of the Hague Regulations, a territory is occupied when the “authority has been established and can be exercised”, removing the requirement of the legal status of the territory before the occupation⁴⁸². Moreover, Turns explains how the *de facto* annexation cannot “affect the *de jure*

⁴⁷³ Government of Israel and Palestine Liberation Organization. (1995). "Israeli-Palestinian Interim Agreement on the West Bank and the Gaza Strip." Chapter II. Redeployment and Security Arrangements.

⁴⁷⁴ INTERNATIONAL COURT OF JUSTICE. (2004). *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*. Advisory Opinion, p. 201. para. 163.

⁴⁷⁵ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the Legal Consequences arising from the Policies and Practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. para. 68.

⁴⁷⁶ UNSC. S/RES/2334 (2016) adopted at its 7853rd meeting, on 23 December 2016 and S/RES/2735 (2024) adopted at its 9650th meeting on 10 June 2024.

⁴⁷⁷ UNITED NATIONS GENERAL ASSEMBLY. (2024). “Admission of new Members to the United Nations”. Resolution ES-10/23. para. 1.

⁴⁷⁸ INTERNATIONAL COURT OF JUSTICE. (2004). *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*. Advisory Opinion, para. 78.

⁴⁷⁹ *Ivi*, para. 80.

⁴⁸⁰ EVANS, M. (2018) *International Law*, Oxford, Fifth Edition. pp. 865-866.

⁴⁸¹ EVANS, M. (2018) *International Law*, Oxford, Fifth Edition. pp. 865-866.

⁴⁸² *Ibid.*

application of the law of belligerent occupation”⁴⁸³. In the 2004 Advisory Opinion on the Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory from the ICJ, the Court affirms that during the armed conflict between Israel and Jordan in 1967 Israel has occupied the territory between the Green Line and the former border between Jordan and Mandatory Palestine. Israel would, therefore, be the occupying Power in the territory. At least up to the 2004 Advisory Opinion, no events have altered the situation, and Israel maintained the status of occupying power. Despite Gaza not being mentioned in the 2004 Advisory Opinion, the 2024 Advisory Opinion mentions the Gaza Strip as “integral part of the territory that was occupied by Israel in 1967”⁴⁸⁴. More importantly, the ICJ specifies that the withdrawal in 2005 of the Israeli army from the Strip as a consequence of the implementation of the Disengagement Plan, has not entirely ceased the occupation and the related obligations of Israel under the law of occupation⁴⁸⁵. The Court sustains this argument with the legal reasoning previously mentioned on the requirement of effective control over a territory from a power to determine its status of occupying power.

As an occupying power, Israel is bound by all the legal provisions deriving from its status under international customary law, international humanitarian law, international human rights law and several agreements, namely, International Convention on the Elimination of All Forms of Racial Discrimination of 21 December 1965 (hereinafter “CERD”), the International Covenant on Economic, Social and Cultural Rights of 16 December 1966 (hereinafter the “ICESCR”) and the International Covenant on Civil and Political Rights of 19 December 1966 (hereinafter the “ICCPR”)⁴⁸⁶. However, occupation is a proper regulated regime under *jus ad bellum* (mainly Hague Regulations) and *jus in bello* (mainly Geneva Conventions), and not illegal *per se*⁴⁸⁷. The legality of an occupation is often considered based on *jus ad bellum* rules, determining whether the occupation was illegal as such from the beginning⁴⁸⁸. Differently, ICJ’s reasoning will also consider the possibility of the emergence of illegality from a previous legal belligerent occupation, based on a subsequent violation of the rules of *jus in bello*. The Court maintains that the lawfulness of an occupation is to be evaluated on the basis of the consistency of the effective control with “the rules concerning the prohibition of the threat or use of force, including the prohibition of territorial

⁴⁸³ *Ibid.*

⁴⁸⁴ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*.

⁴⁸⁵ Ivi, para. 87-94

⁴⁸⁶ CHINKIN, C. (2008). “Laws of occupation”. In: Conference on Multilateralism and International Law with Western Sahara as a case study hosted by the South African Department of Foreign Affairs and the University of Pretoria. p. 213-216.

⁴⁸⁷ DINSTEIN, Y. (2019). *The International Law of Belligerent Occupation*. 2nd ed. Cambridge: Cambridge University Press. pp. 31-32.

⁴⁸⁸ FLECK D. (2021). *The Handbook of International Humanitarian Law*. Fourth edition. p. 295.

acquisition resulting from the threat or use of force, as well as with the right to self-determination”⁴⁸⁹. According to a 2023 study from the UN and the Irish Centre for Human Rights at the University of Galway School of Law, the unlawfulness of an occupation can rise from an act of aggression, from a breach of self-defence rules (necessity, proportionality, annexation), from the denial of the right of internal or external self-determination or from a breach of the prohibition of apartheid⁴⁹⁰.

A first legally relevant argumentation provided by the ICJ regards the terminology used in the UNGA request, defining the occupation as “prolonged,” a non-legal term introduced in 1990 by Roberts⁴⁹¹. The author proposes “prolonged occupation” as a distinct category to identify an occupation that lasts more than “5 years and extends into a period when hostilities are sharply reduced”⁴⁹². Roberts discusses Israeli statements addressing the inapplicability of certain rules to the occupation at issue, in particular the 1949 Geneva Convention⁴⁹³, and whether, even if found applicable, the rules on occupation are valid under “prolonged occupation”. He concludes confirming the continuing applicability of international law to prolonged occupations⁴⁹⁴. As traditionalists have argued, IHL or *jus ad bellum* do not impose limits on the applicability of occupation law depending on the duration of the belligerent occupation⁴⁹⁵. The ICJ recognizes that the occupation of Palestinian Territories has lasted for 57 years today but underlines that the conformity of an occupation with international law provisions is not to be judged based on its duration, since “law of occupation does not set temporal limits that would, as such, alter the legal status of the occupation”⁴⁹⁶.

Subsequently, the ICJ’s Advisory Opinions treats the merits of the questions posed by the UNGA. Firstly, it addresses the settlement policies conducted by Israel. The Court recognizes that the State of Israel establishes retroactively the legality of settlements (outposts) and provides for their maintenance, ascertaining the settlement policy of Israel in the OPT⁴⁹⁷. The same conclusion was reached in 2016 by Yesh Din, an Israeli non-profit organization, in its position paper after an

⁴⁸⁹ *Ivi*, para. 109.

⁴⁹⁰ UNITED NATIONS. (2023). “The legality of the Israeli Occupation of the occupied Palestinian territory, including East Jerusalem”. Committee on the Exercise of the Inalienable Rights of the Palestinian People (CEIRPP) and the University of Galway, Irish Centre for Human Rights. pp. 29-41.

⁴⁹¹ ROBERTS, A. (1990). “Prolonged Military Occupation: The Israeli-Occupied Territories Since 1967”. *The American Journal of International Law*. 84(1). pp. 44–103.

⁴⁹² *Ivi*. p. 47.

⁴⁹³ *Ivi*, pp. 62-65

⁴⁹⁴ *Ivi*, p. 97.

⁴⁹⁵ IMSEIS A. (2020). "Negotiating the Illegal: On the United Nations and the Illegal Occupation of Palestine, 1967–2020". *European Journal of International Law*. Volume 31. pp. 1056, note 3.

⁴⁹⁶ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. Para. 109.

⁴⁹⁷ *Ivi*, para. 113.

analysis of the 2012 Levy Report. The report supported and legally justified the conduct of ministries and other government agencies concretizing the “administrative promise” to legalize the settlements (*a posteriori*)⁴⁹⁸. Departing from this, the Court furtherly argues that the movement of Israeli settlers into the West Bank and East Jerusalem caused the forced displacement of Palestinians residing in the territory, breaching Article 49(6) of the Fourth Geneva Convention which establishes a prohibition of deportation or transfer of the occupied population⁴⁹⁹. Already back in 1971 the Security Council Resolution 298 declared that any expropriation, transfer of population are “totally invalid and cannot change that status”⁵⁰⁰, because no status change can be recognized if it derives from the use of force under the customary law of the prohibition of acquisition of territory by force and the duty of non-recognition⁵⁰¹. According to Zemach, despite being illegal, the sole demolition of houses in the OPT “does not reflect the identification of an underlying fundamental moral norm by the international community”, and therefore it would not meet the “moral gravity requirement” in and of itself to be prosecuted under the Rome Statute⁵⁰². For what concerns the land confiscation resulting from the occupation, the Court reports a data of about 2,000 km² expropriated since 1967 in Area C, mostly benefiting the settlers⁵⁰³. In the view of Court, and as previously argued by Simon, this consists in a breach of the Hague Regulation under its article 46 prescribing the duty of respect of private property⁵⁰⁴. Furthermore, the ICJ held that Israel breached Article 55⁵⁰⁵ because it did not “administer public property for the benefit of the local population”⁵⁰⁶. On this matter, already back in the 1978 Clagett and Johnson followed the same reasoning concluding that Israel’s actions were violating this article, even if in the regards of the Gulf of Suez⁵⁰⁷. On the contrary, in the 2011

⁴⁹⁸ YESH DIN. (2016). “From Occupation to Annexation: the Silent Adoption of the Levy Report on Retroactive Authorization of Illegal Construction in the West Bank”. Position Paper. p. 24.

⁴⁹⁹ *Ivi*, para. 115-119.

⁵⁰⁰ See SC Res. 298, 25 September 1971. See also 87 SC Res. 252(1968). SC Res. 267, 3 July 1969.

⁵⁰¹ EVANS, M. (2018) *International Law*, Oxford, Fifth Edition. pp. 603. See also UN Charter article 2(4), ARSIWA article 41(2).

⁵⁰² ZEMACH, A. (2004). “The Limits of International Criminal Law: House Demolitions in an Occupied Territory”. Connecticut Journal of International Law, Vol. 20. p. 45.

⁵⁰³ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. para. 120.

⁵⁰⁴ SIMON D. (1994). "The Demolition of Homes in the Israeli Occupied Territories". Yale Journal of International Law. p. 66.

⁵⁰⁵ See Hague Regulation, Article 55: “The occupying State shall only be regarded as administrator and usufructuary of the public buildings, real property, forests, and agricultural works belonging to the hostile State, and situated in the occupied country. It must protect the capital of these properties, and administer it according to the rules of usufruct.”

⁵⁰⁶ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. para. 122. According to the Court the usufruct rules (i.e. Article 55) entail “that the occupying Power bears the duty to administer public property for the benefit of the local population or, exceptionally, to meet the needs of the army of occupation.”

⁵⁰⁷ CLAGETT, B. M., & JOHNSON, O. T. (1978). “May Israel as a Belligerent Occupant Lawfully Exploit Previously Unexploited Oil Resources of the Gulf of Suez?”. *The American Journal of International Law*. p.584.

Quarries case⁵⁰⁸ the Israeli High Court of Justice found Israel did not breach Article 55 since it had enjoyed the quarries, without exploiting it and that the local Palestinians benefitted from the Israeli administration of the quarries⁵⁰⁹. Relevantly for the purposes of the present dissertation, a duty of protection and safeguard of the natural resources arises from the second paragraph of Article 55⁵¹⁰. The Court found that Israel caused the “detriment” of the latter generating benefits for the settlers and it is also straightforward in stating that environmental harm must be avoided⁵¹¹. In judging this conduct, the Court holds: “(w)here (...) an occupying Power pursues a policy of exploitation of natural resources in the occupied territory contrary to the law of occupation, this policy could be contrary to the principle of permanent sovereignty over natural resources”⁵¹². Studies prove the exploitation of OPT’s natural resources by Israel for the benefit of its own population⁵¹³ in a way that, according to the ICJ, is inconsistent with obligations deriving from international law⁵¹⁴. It is interesting to note that no reference is made to the consequences in terms of pure environmental impact deriving from the occupation or to the duties of the occupying power under an ecocentric approach without a focus on the rights of the people on the natural resources. Finally, the Independent International Commission of Inquiry on the Occupied Palestinian Territory, including East Jerusalem, and Israel provided evidence that Israeli policies and practices have contributed to the emergence of cases of settlers and security forces violence over Palestinians⁵¹⁵. As a result, the Court is also of the opinion that “Israel’s systematic failure to prevent or to punish attacks by settlers against the life or bodily integrity of Palestinians, as well as Israel’s excessive use of force against

⁵⁰⁸ ISRAELI HIGH COURT OF JUSTICE. JUDGEMENT. (2011). *Yesh Din – Volunteers for Human Rights, et. al. v. Commander of the IDF Forces in the West Bank, et. al.*, HCJ 2164/09. 26 December 2011.

⁵⁰⁹ KRETZMER, D. (2012). “The law of belligerent occupation in the Supreme Court of Israel”. *International Review of the Red Cross*. 94(885). pp. 220-222.

⁵¹⁰ SMITH, T. (2022). “The Protection of the Environment and Natural Resources in Armed Conflict”. In: Sayapin, S., et al. *International Conflict and Security Law*. p. 425.

UNITED NATIONS. (1983). Report of the Secretary General. “Implications, under international law, of the United Nations resolutions on permanent sovereignty over natural resources, on the occupied Palestinian and other Arab territories and on the obligations of Israel concerning its conduct in these territories”. General Assembly. Thirty-eighth session. p. 20.

⁵¹¹ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. para. 122, 124.

⁵¹² *Ivi*, para. 125.

⁵¹³ UNITED NATIONS. (2023). “Economic and social repercussions of the Israeli occupation on the living conditions of the Palestinian people in the Occupied Palestinian Territory, including East Jerusalem, and of the Arab population in the occupied Syrian Golan”, UN doc. A/78/127-E/2023/95. pp. 12-13.

WORLD BANK (2013). “Area C and the Future of the Palestinian Economy (2013)”. pp. 21-25.

⁵¹⁴ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. para. 133.

⁵¹⁵ UNITED NATIONS. (2022). “Report of the Independent International Commission of Inquiry on the Occupied Palestinian Territory, including East Jerusalem, and Israel”. Seventy-seventh session of the UNGA. 14 September 2022. Para. 64.

Palestinians, is inconsistent with the obligations” under Article 46 of the Hague Regulations and article 27 of the Fourth Geneva Convention⁵¹⁶.

Secondly, the opinion examines the issue of annexation, defined as “the forcible acquisition of territory by one State at the expense of another State”⁵¹⁷. Annexation can take place either *de jure* and/or *de facto*, but the determining factor to legally assess annexation is the effective control and the intention to control it permanently⁵¹⁸. In the specific case, the Court examined the policies and practices first in East Jerusalem, then in the West Bank, and found that they amount to annexation “of large part” of the OPT⁵¹⁹. Thirdly, the Court examined the issue of the implementation of discriminatory legislation. The non-discrimination principle is considered by the Court as customary international law, in line with various scholars, such as Schabas⁵²⁰. The Court found that various Israeli policies in the OPT amount to prohibited discrimination, namely policies on residence permit, restrictions on movement freedom, building permits⁵²¹. Finally, the Court found that “Israel’s unlawful policies and practices are in breach of Israel’s obligation to respect the right of the Palestinian people to self-determination”⁵²², in line with previous studies⁵²³. This decision reflected the previous 2004 Advisory Opinion regarding the construction of a wall in the OPT, in which the Court judged Israel in violation of the *erga omnes* obligation of the right to self-determination of the Palestinian people⁵²⁴.

As a result of the analysis above described and referring to the first part of *question b*, the Court adjudicates the effects of policies and practices on the legal status of the occupation under international law. The Court maintains that these policies have a direct impact on the legality of the “continued presence” of Israel as an occupying Power⁵²⁵. In the view of Milanovic and Akande the choice of the wording “continued presence” is stands signaling a distinction between the situation

⁵¹⁶ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. para. 149-154.

⁵¹⁷ HOFFMAN R. (2020). “Annexation”. in Max Planck Encyclopedia of Public International Law.

⁵¹⁸ KORMAN S. (1996). “The Right of Conquest: The Acquisition of Territory by Force in International Law and Practice”. p. 113-129.

⁵¹⁹ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. para.179.

⁵²⁰ *Ivi*, para. 189.

⁵²¹ *Ivi*, para. 180-229.

⁵²² SCHABAS W. A. (2021). “The Customary International Law of Human Rights”. Oxford University Press. p. 46.

⁵²³ See NAZRUL, N. (2024). “Voices of the Marginalized: Examining Palestine’s Quest for Justice through the Lenses of Sen, Rawls, and Said”. *Social Sciences Insights Journal*. See SAUL, M. (2021). “The Right to Self-Determination and the Prolonged Occupation of Palestinian Territory”. *Protecting Community Interests through International Law*. See MOHAMMAD, F. (2024). “Law Breaking, Law Making and International Law: Palestine, Israel and the Foundations of International Law”. *Virginia Journal of International Law*. p. 42.

⁵²⁴ INTERNATIONAL COURT OF JUSTICE. (2004). *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*. Advisory Opinion. para. 155.

⁵²⁵ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. para.261.

in the OPT and the regular legal concept of occupation, in terms of the implemented policies and practices, but this distinction does not entail a difference in terms of legal outcome⁵²⁶. In the most important passage of the Opinion, the Court affirms that:

*“The sustained abuse by Israel of its position as an occupying Power, through annexation and an assertion of permanent control over the Occupied Palestinian Territory and continued frustration of the right of the Palestinian people to self-determination, violates fundamental principles of international law and renders Israel’s presence in the Occupied Palestinian Territory unlawful”*⁵²⁷.

What is more, according to the Court, security concerns cannot function as waivers of the prohibition of the acquisition of territory by use of force⁵²⁸, despite neither rejecting these concerns nor declaring them as a pretext for underlying intentions of annexation⁵²⁹. Moreover, as pointed out by Imseis, the principle of *ex unjuria jus non oritur*, impedes a state committing a wrongful act to negotiate its way out of the international responsibility⁵³⁰. Under this reasoning, conditioning the end of an unlawful occupation to a negotiation is against this principle and the occupying state’s secondary obligations⁵³¹. It is due to highlight that the Court served itself to laws on occupation, jus ad bello, UN Charter and customary law to support its argumentation, not international humanitarian law.

Addressing the legal consequences arising from its findings, the Court concluded that the continued presence of Israel in the OPT is a wrongful act that entails international responsibility. Israel would be under the obligation of bringing to an end “as rapidly as possible”⁵³², not only the unlawful policies and practices in the OPT, but also the settlement activity and the presence itself. The Court conditioned the rapidity of the withdrawal on its feasibility, avoiding prescribing immediateness. Therefore, the obligation of withdrawal would derive from obligations under international law, and it is not conditioned on the finding of an agreement with Palestinian authorities. Moreover, Israel would need to eliminate the discriminatory legislation provisions against Palestinians. Under customary international law and under the Articles on States

⁵²⁶ AKANDE D., MILANOVIC M., WEBB P. (2024). “Episode 27: Preoccupied: The ICJ’s Palestine Advisory Opinion”. EJIL: The Podcast!. 7 August 2024. Minutes 14:00 – 19:00

⁵²⁷ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. Para. 261.

⁵²⁸ *Ivi*, para. 254.

⁵²⁹ AKANDE D., MILANOVIC M., WEBB P. (2024). “Episode 27: Preoccupied: The ICJ’s Palestine Advisory Opinion”. EJIL: The Podcast!. 7 August 2024. Minutes 19:00 – 19:30

⁵³⁰ IMSEIS A. (2020). “Negotiating the Illegal: On the United Nations and the Illegal Occupation of Palestine, 1967–2020”. *European Journal of International Law*. Volume 31. pp. 1066.

⁵³¹ *Ivi*, p. 1068.

⁵³² INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. para. 267.

Responsibility⁵³³, Israel would also be under the obligation of pay full reparation to the concerned persons, constating in restitution, compensation or satisfaction, aiming at “wipe out all the consequences of the illegal act and reestablish the situation which would, in all probability, have existed if that act had not been committed”⁵³⁴. Regarding security claims, the Court is less straightforward, and it is not determined whether security concerns could justify an adequate level of forces to be kept in the OPT by Israel and how the principle of proportionality would play a role in this. For their part, states would be obliged not to recognize as legal the situations created by Israel’s continued presence and not to aid assistance for its purposes, assistance being military assistance, as well as economic, cultural, social, and academic. The United Nations would be under the same obligations. As a final remark, it is important to remind of the non-binding nature of advisory opinions of the ICJ.

Once the legal implications of the Israeli occupation have been presented and discussed, it is now due to focus on the issue subject of this dissertation addressing the environmental consequences and impacts deriving from the occupation in order to highlight the necessity of a revision of the international criminal environmental law system allowing to prosecute environmental crimes despite the determination of a particular context. The contextual element would leave a too wide space of uncertainty, especially considering the evolution of conflicts towards a higher degree of non-traditionality and unconventionality⁵³⁵.

6.2 The environmental impact on Palestinian territory related to the Israeli occupation

The environment cannot but be affected by the socio-political context, considered that the proportion of the impact differs case by case. The relationship between the environmental conditions of Palestinian lands and Israeli occupation is organic, meaning it is genuine, authentic, and developed progressively and spontaneously over time. Several sources claim that the occupation, especially after 1967, is the cause of multiple environmental issues, such as “land degradation, deterioration of biodiversity, depletion of water resources, deterioration of water quality, air

⁵³³ INTERNATIONAL LAW COMMISSION. (2001). Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries. Yearbook of the ILC. Vol. II.

⁵³⁴ *Ivi*, para. 269.

⁵³⁵ LOPEZ, A. C. (2016). “The evolution of war: theory and controversy”. *International Theory*. 8(1), 127–129.

pollution”⁵³⁶. On environmental terms, the key aspect of the occupation is the prevention of Palestinians from the rightful consumption of the natural resources in the country. This prevention has both a direct impact on the conservation of the environment as well as an indirect one coming from the lack of adequate maintenance. Extreme events have increased in intensity and frequency, marking an important anthropological component in the climate change of the region⁵³⁷. Other drivers of the climate change lay on the environmental starting conditions (elevated temperatures and reduced precipitations), as well as on sociological conditions (population growth, urbanization, and density) and environmental governance constraints⁵³⁸. According to a 2020 UNEP report the most important anthropological actions degrading the environment are “urbanization and settlement growth, unplanned distribution of industries, overgrazing, pollution and contaminants”⁵³⁹. According to the same report the main problems with the environmental governance of the Occupied Palestinian Territories (OPT) are the following: the restrictions on movement of Palestinians that constrain the management of natural resources, the lack of possibility for the Palestinian policymakers to employ the best technologies, the lack of political progress, the overlapping authorities and the Israeli security measures causing environmental change and degradation⁵⁴⁰, together with territorial division of Palestine into two noncontiguous territories in the West Bank and in Gaza⁵⁴¹. A striking data from a 2016 UN Study on this is that in 2016, 70% of the Area C territories unilaterally taken by Israel building boundaries and the remaining 30% is “effectively off-limits for Palestinian development”⁵⁴². Relevantly, in its 2024 Advisory Opinion the ICJ concluded that:

*“On the basis of the evidence before it, the Court considers that Israel’s use of the natural resources in the Occupied Palestinian Territory is inconsistent with its obligations under international law. By diverting a large share of the natural resources to its own population, including settlers, Israel is in breach of its obligation to act as administrator and usufructuary”*⁵⁴³;

⁵³⁶ ISAAC, J. AND HILAL, J. (2011) “Palestinian landscape and the Israeli Palestinian conflict”. *International Journal of Environmental Studies*. 68(4), p. 414.

⁵³⁷ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory 2020*. p. 21.

⁵³⁸ *Ivi*, pp. 45-47.

⁵³⁹ *Ivi*, p. 21.

⁵⁴⁰ *Ivi*, p.47.

⁵⁴¹ *Ivi*, p.22.

⁵⁴² UNITED NATIONS. (2016). *Report on the Middle East Quartet*. United Nations. p. 5.

⁵⁴³ INTERNATIONAL LAW COMMISSION. (2001). Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries. Yearbook of the ILC. Vol. II. Para. 133.

Once again, in regards of this opinion, the Court is requested to adjudicate the legality of certain practices and policies implemented by Israel on the Occupied Palestinian Territory since 1967, as well as the legality of the continued presence itself. In light of this specific request, the Court does not address the environmental impact of the occupation. What the Court does, is establishing the unlawfulness of Israel's use of natural resources in the OPT, which results in limitations on Palestinian sovereignty. However, this legal finding is an essential starting point to discuss the environmental consequences of the occupation. While discussing these effects and consequences, it is due to keep in mind that each and every negative consequence on the natural environment entails an exacerbation of the problems in the socio-economic sphere, for instance fostering poverty and unemployment increase.

6.2.1 Water Resources

The issue of water resources and their denial to Palestinians is crucial in terms of sustainable development, and increasingly in terms of survival of the population. The resources of freshwater in Palestinian lands can be divided into groundwater and surface water. Essentially, groundwater consists of aquifers and surface water of rivers, streams, lakes, and springs. The West Bank surface water would come from the Jordan River and negligible wadis, while the groundwater structures in three hydrological basins and the relative aquifers, divided as follows: Western Basin, Northeast Basin, and Eastern Basin⁵⁴⁴. In Gaza, the only surface water available was the Wadi Gaza, which is mostly dried and the groundwater derives from the coastal Basin and Coastal Aquifer⁵⁴⁵. In its Advisory Opinion on the Legal Consequences Arising from The Policies And Practices of Israel in the Occupied Palestinian Territory, Including East Jerusalem, the ICJ mentions that since 1967 the water resources in the OPT have been controlled by Israel and in 1982 it has provided the Mekorot company the authority on the resources in West Bank and East Jerusalem⁵⁴⁶.

The major source in the West Bank, the River Jordan, passes through Syria, Lebanon, Israel, Palestine, and Jordan⁵⁴⁷. In the last 50 years, the 96% of the flow has been diverted leading to a loss

⁵⁴⁴ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory*. p. 64.

⁵⁴⁵ *Ibid.*

⁵⁴⁶ INTERNATIONAL COURT OF JUSTICE. (2024). Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem. Para. 127.

⁵⁴⁷ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory*. p. 65.

of the half of the biodiversity in Lower Jordan area has been lost⁵⁴⁸. According to the ICJ, Israel “prevents Palestinians from accessing and extracting water from the Jordan River⁵⁴⁹. Back in 2007 Israeli used about 64% of the river’s sources, while the Palestinians have had no access to them since 1967 because of the Israeli military control of the Jordan valley⁵⁵⁰. Moreover, waters in the lower Jordan are contaminated from raw sewage and irrigation return flows from the exploitation of the upper Jordan River. In 2011, the Jordan River use was divided as follows: Lebanon 5 mcm/year, Syria 160, Jordan 235, Israel 870 and 0 for the Occupied Palestinian Territory (OPT)⁵⁵¹. For what concerns the groundwater resources, the three main Basins provide about 675 million cubic meters (mcm)⁵⁵². About 95% of the feeding basins are in the West Bank as well as 80% of its stocking basins⁵⁵³. In 1995, Israelis and Palestinians agreed in the Article 40 of the Oslo Accords II to allocate 71% of the basins’ resources to Israel, the 20% to Palestine and not to allocate 9% that would be developed in the future. However, Israeli water abstraction in 2011 was respectively about 591, 147 and 132 mcm from the Western, North-eastern, and Eastern basins⁵⁵⁴. The comparison with the Palestinian abstraction is striking. It is respectively 29, 36 and 71 mcm⁵⁵⁵, not respecting the proportions of the agreement. Concerning the groundwater usage proportion, Israel is consuming 82%, while Palestine 18%. According to a 2018 World Bank Study, in 2030 the West Bank will require a demand of 209 mcm/year, while the Gaza Strip 135 (estimates conducted before the outbreak of the new phase of the conflict after 7th October 2023). Despite this, the supply will only cover 117 mcm/year in the West Bank and 56 in Gaza⁵⁵⁶. Furthermore, an increasing quantity of water needs to be purchased from the Israeli water company Mekorot⁵⁵⁷.

According to the 2020 UNEP report on the state of environment of the Palestinian territories, only 4% of the water extracted from the coastal aquifer is drinkable respecting the World Health

⁵⁴⁸ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory*, p. 73.

⁵⁴⁹ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory*.

⁵⁵⁰ *Ibid.*

⁵⁵¹ ISAAC, J. AND HILAL, J. (2011) “Palestinian landscape and the Israeli Palestinian conflict”. *International Journal of Environmental Studies*. 68(4). p. 422.

⁵⁵² UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory 2020*. p. 65

⁵⁵³ *Ivi*, p. 65.

⁵⁵⁴ ISAAC, J. AND HILAL, J. (2011) “Palestinian landscape and the Israeli Palestinian conflict”. *International Journal of Environmental Studies*. 68(4). p. 422.

⁵⁵⁵ *Ivi*. p. 417.

⁵⁵⁶ PALESTINIAN CENTRAL BUREAU OF STATISTICS AND PALESTINE MONETARY AUTHORITY. (2021). *Performance of the Palestinian Economy*.

⁵⁵⁷ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory 2020*. p. 69.

Organization standards⁵⁵⁸, partially due to the over-abstraction of the coastal aquifer⁵⁵⁹, which provides for about 55 mcm annually⁵⁶⁰. In 2000 98.3% of the public water network was safely drinkable, while in 2014 the same indicator dropped to 10.5%⁵⁶¹. This water is accessible directly only from 30% of the households⁵⁶². The World Bank has stated that water availability in Gaza, in some cases, overcomes the situations of a number of communities in Area C. To provide a final comprehensive figure, back in 2011, 2.4 million of Palestinians registered an availability of 105.9 mcm, while 7.1 million Israeli inhabitants could count on 2135.6 mcm⁵⁶³. A further striking element is the difference of consumption: 73 liters per capita per day consumed by Palestinians against 300 l/c/d of the Israelis⁵⁶⁴. Plus, Israeli settlers consume about 369 l/c/d⁵⁶⁵. According to the WHO the minim standard water need is 100 l/c/d⁵⁶⁶.

The wastewater management is a challenge to the sustainable development of the Palestinian governance, since as of 2018, the World Bank reported that only 30% of wastewater is collected and only about 12% is treated⁵⁶⁷. Treatment plants have been constructed but cannot satisfy the Palestinian needs. This effectively results in untreated sewage water being released into the environment. Streams are often turned into wastewater channels from which the wastewater reaches the aquifers⁵⁶⁸. Transboundary effects related to the wastewater mismanagement are: “(i) impact on marine and coastal biodiversity; (ii) impact on broader Mediterranean ecological and human well-being; (iii) impact on fish population; and (iv) impact on desalination”⁵⁶⁹. Especially in Gaza, wastewater-related issues concern several levels of contamination of the aquifer: chemical contamination, biological contamination, diffusion of bacterial pathogens, viral pathogens, as well as intestinal parasites⁵⁷⁰. This overall contamination led to a crisis in which 26% of the diseases in Gaza are water related⁵⁷¹. In the West Bank water quality is overall tolerable even if there are concentrations of chloride and nitrates in Jordan Valley, Qalqiliya and Tulkarem⁵⁷². This is likely

⁵⁵⁸ *Ivi*, p. 68.

⁵⁵⁹ *Ibid.*

⁵⁶⁰ *Ivi*, p. 66.

⁵⁶¹ *Ivi*, p.68.

⁵⁶² *Ibid.*

⁵⁶³ *Ivi*, p. 422.

⁵⁶⁴ ISAAC, J. AND HILAL, J. (2011) “Palestinian landscape and the Israeli Palestinian conflict”. *International Journal of Environmental Studies*. 68(4). p. 422.

⁵⁶⁵ *Ivi*, p.423.

⁵⁶⁶ WORLD HEALTH ORGANIZATION. (2011). *Guidelines for drinking-water quality*. 4th ed. p. 84

⁵⁶⁷ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory 2020*. p. 71.

⁵⁶⁸ *Ivi*, p.74.

⁵⁶⁹ *Ibid.*

⁵⁷⁰ *Ivi*, p.77.

⁵⁷¹ *Ibid.*

⁵⁷² *Ibid.*

caused by the lack of governance and authority attributable, at least partially, to the occupation lasting for 57 years. The “recurring conflict” has damaged Palestinian infrastructure for water and hygiene and Israel has limited the access to pumps and water purification chemicals⁵⁷³. The Palestinian Water Authority could not regulate the drilling of private wells, further negatively affecting the water system and the overall state of environment⁵⁷⁴. The Palestinian Authority often cannot pay for water purchases to Mekorot as a result of an accumulating debt to Israel⁵⁷⁵. Furthermore, the taxation posed by the Palestinian authority cannot cover the costs, while a third of the family income in Gaza is spent on water⁵⁷⁶. Despite the attempts for a cooperation (Joint Water Committee), no plan was actually implemented and there is a possibility of building up a system in which the Palestinian Water Authority would control steams in Areas A and B, while Israelis would control Area C, enhancing the Israeli occupation of the territories⁵⁷⁷.

6.2.2 Pollution, emissions, and waste disposal

The pollution or contamination of natural elements (land, air, and water) is one of the most invasive problems acting in deterioration of the Palestinian landscape, making it more and more vulnerable to the human-caused climate change. According to the ICJ, the settlements “contributed to the pollution of freshwater and groundwater”⁵⁷⁸. For what concerns air pollution, the source can be either natural (forest fires, dust storms or volcanic eruptions), or anthropogenic. In the Palestinian territory, the most polluting human activities can be found in the industrial sector, the transport sector, the transboundary air pollutants, cooking facilities and “open burning of solid waste and charcoal kilns”⁵⁷⁹. While industries are not categorized by the UNEP on the basis of ownership, it is demonstrable that 8 out of 15 quarries operating in Area C generating a significant air pollution are under Israeli ownership⁵⁸⁰. Transportation, again, makes up for 50% of the total emissions, mostly produced by motor vehicles⁵⁸¹, circulation of which is often limited to the Palestinians in Area C. As a consequence of local practices and transboundary tendencies, the region is subjected to a higher vulnerability in terms of climate change. Higher temperatures and higher incidence of

⁵⁷³ Ivi, p.72.

⁵⁷⁴ Ivi, p.76.

⁵⁷⁵ *Ibid.*

⁵⁷⁶ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory 2020*. p. 78.

⁵⁷⁷ Ivi, p. 81.

⁵⁷⁸ INTERNATIONAL LAW COMMISSION. (2001). Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries. Yearbook of the ILC. Vol. II. Para. 130.

⁵⁷⁹ Ivi, p. 87.

⁵⁸⁰ Ivi, p. 88.

⁵⁸¹ *Ibid.*

extreme rainfall threaten the livelihood and environmental ecosystems of the region⁵⁸². Climate change, for its part, also affects agriculture, availability of water resources and human health. The agricultural sector is the “most sensitive”⁵⁸³ because of its likely repercussions on the food availability of all the state since the West Bank produces 85.6% of Palestinian goods⁵⁸⁴. In situations of climate crisis, the food prices rise becoming unaffordable for low-income families⁵⁸⁵. The cultivations categorized as highly vulnerable to the air and land pollution are:

Theme/sector	Highly vulnerable – West Bank	Highly vulnerable – Gaza Strip
Agriculture	<ul style="list-style-type: none"> Olive production Grape production Stone fruits Rain-fed vegetables Field crops Irrigated vegetables Grazing area and soil erosion Irrigation water Livestock production 	<ul style="list-style-type: none"> Livestock production Cost of agricultural production Employment Vegetable production Olive production Citrus Irrigation water

Figure 9 Issues ranked as “highly vulnerable” to climate change (UNEP, 2020)

The issue of problematic waste disposal and the consequent polluting infiltration is also important in the region. It is due to underline that Palestinians generate solid waste for 0.91 kg/day in the West Bank and 0.7 kg/day in Gaza, while the Israeli settlements in the OPT generate solid waste for about 1.9 kg/day⁵⁸⁶. 20% of the solid waste in Palestinian territories are treated in “random dumpsites”⁵⁸⁷. The incorrect disposal of solid waste jeopardizes the sustainability of the environment. Despite the attempts of the Environment Quality Authority, the lack of fundings and expertise are imposing⁵⁸⁸. For instance, medical waste is often equalized to normal waste, causing a dangerous health hazard⁵⁸⁹. It is not rare that Israeli forces bring electronic waste to the West Bank to be processed⁵⁹⁰. According to the Israeli Information Center for Human Rights in the Occupied Territories:

“Israel transfers to the West Bank various types of waste: sewage sludge, infectious medical waste, used oils, solvents, metals, electronic waste and batteries, to name but a few. All of these are urban and industrial by-products Israel generates within its own

⁵⁸² *Ibid.*

⁵⁸³ *Ivi*, p.93.

⁵⁸⁴ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory 2020*. p. 93.

⁵⁸⁵ *Ivi*, p.95.

⁵⁸⁶ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory 2020*. p. 111.

⁵⁸⁷ *Ibid*

⁵⁸⁸ *Ibid.*

⁵⁸⁹ *Ibid.*

⁵⁹⁰ *Ivi*, p. 112.

*territory, and they are made up of a wide range of unwanted substances that pose a real threat to the people and natural resources in their vicinity.*⁵⁹¹”

Under the Basel Convention, every State has the right to prohibit the disposal of “foreign hazardous wastes”⁵⁹² on its territory, not only given the international legal system, but also under the assumption that waste management is more effective and less harmful to environment if concluded in the country of production of the waste itself⁵⁹³. Israel deviates from this principle creating facilities and bureaucratic structure to transfer industrial, medical, and urban wastes in the West Bank. When in doing so is an occupying power, and not simply a foreign state, the destination country is “entirely at its mercy”⁵⁹⁴. Moreover, Palestinians are not informed on the activities taking place in facilities controlled by the Israeli forces⁵⁹⁵. The Israeli Information Center for Human Rights in the Occupied Territories reported that Israel uses the West Bank for waste disposal purposes as it was its own territory, but it does not apply the same environmental and health disposal standards as on Israeli territory⁵⁹⁶. Incorrect waste disposal, industrial management and agricultural excessive use of fertilizers have a contaminating effect on the soil with toxic substances. The contamination has, in return, very important negative impacts on the soil fertility, organic matter and toxicity of the agricultural products. The land pollution and contamination nevertheless come also from military activities. In 2009 the UNEP released an environmental assessment relating to the military escalation in the Gaza Strip reporting that Israeli Air Forces sprayed herbicides along the territorial fence, damaging crops both in Gaza and in the surrounding Israeli territory⁵⁹⁷. The same report addresses the damage directly attributable to the conflict as being the waste deriving from the demolition of constructions, hazardous waste from weaponry uses or disposal (such as the destruction of fuel stations, poultry farm or a cement factory), the biological risks posed by the rests of dead animals, as well as the destruction of farmland, greenhouses and open fields by the transit of military vehicles⁵⁹⁸. The destruction of a part of Az Zaitoun wastewater treatment plant caused the contamination of more than 55,000 square meters of land⁵⁹⁹. The destruction of buildings with

⁵⁹¹ ISRAELI INFORMATION CENTER FOR HUMAN RIGHTS IN THE OCCUPIED TERRITORIES. (2017). “Made in Israel: exploiting Palestinian land for treatment of Israeli Waste”. p. 6.

⁵⁹² UNITED NATIONS ENVIRONMENTAL PROGRAM. (1992). *Basel Convention on the control of Transboundary Movements of Hazardous Wastes and Their Disposal*. Signed on 22 March 1989. Entered into force 5 May 1992.

⁵⁹³ ISRAELI INFORMATION CENTER FOR HUMAN RIGHTS IN THE OCCUPIED TERRITORIES. (2017). “Made in Israel: exploiting Palestinian land for treatment of Israeli Waste”. p. 16.

⁵⁹⁴ ISRAELI INFORMATION CENTER FOR HUMAN RIGHTS IN THE OCCUPIED TERRITORIES. (2017). “Made in Israel: exploiting Palestinian land for treatment of Israeli Waste”. p. 16.

⁵⁹⁵ *Ibid.*

⁵⁹⁶ *Ibid.*

⁵⁹⁷ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2009). *Environmental Assessment of the Gaza Strip following the escalation of hostilities in December 2008 – January 2009*. Nairobi.

⁵⁹⁸ *Ivi*, p. 27-33.

⁵⁹⁹ *Ivi*, p. 34.

asbestos posed a significant risk of diffusion of this highly toxic element in the natural environment⁶⁰⁰. Some elements were already concerning according to UNEP experts, before the escalation in 2009, such as the diffused contamination from sewage waters, from landfill's solid waste and from the diffusion of pesticides reaching the seafood⁶⁰¹. Pollution and contamination of the natural resources of the OPT together with the limitations on the ability and capacity to act imposed on the Palestinian Authority from the Israeli authority, pose multidimensional threats and substantially impede a sustainable development for the Palestinian people.

6.2.3 Deforestation, land degradation and loss of biodiversity

A further largely employed technique used by Israeli forces of occupation is the jeopardization of the agricultural sector, from tree uprooting to razing of agricultural land, and the consequent long-term degradation of the soil. Soil erosion suffers from a combination of agricultural and herding exploiting practices, extreme natural events, fragile soil, and steep topography, but in the OPT the phenomenon gets even more serious because of surface soil sealing. Both the practical Israeli settlement activity and the simple intention to limit the Palestinian access to resources have impacted the changes on the structure of the soil and on the natural advancement of land degradation. Soil degradation and erosion increase the threat in case of earthquakes or landslides. A further point to address in terms of environmental damage is the loss of biodiversity which could be addressed as a result of several environmentally harmful conduct, but in the case of Palestine the loss is often associated with the deterioration of land-related resources. Palestinian nature is described as originally rich in terms of biodiversity due to its position and topography⁶⁰². It contains five different biogeographical zones and four phytogeographical regions, meaning four different categories of plant diffusion. About six thousand square kilometers contain about the 3% of the global biodiversity⁶⁰³. The territory hosts fifty-four species of plants that cannot be found in other parts of the world. According to the UNEP, "land cover and land-use change" are a requirement to assure a future adequacy of the environment⁶⁰⁴. In the Palestinian territory, the artificial cover of land passed

⁶⁰⁰ Ivi, p. 37-38.

⁶⁰¹ Ivi, p. 38-67.

⁶⁰² INTERNATIONAL UNION FOR CONSERVATION OF NATURE. (2015). *State of Palestine Fifth National Report to the Convention on biological Diversity*. p. 2.

⁶⁰³ Ivi, p. 2.

⁶⁰⁴ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory 2020*. p. 125.

from 1.4 to 4.3 per cent from 1992 to 2015, with an increase of more than 200%⁶⁰⁵. According to the Environment Quality Authority Report⁶⁰⁶, the land expropriation by Israel is the main driver of:

- *“Destruction of the natural habitat in large areas, since the separation barrier forms a physical impediment in the terrestrial ecosystem;*
- *Fragmentation of ecosystems and habitats, which can isolate and limit the movement of land animals and access to their habitats;*
- *Removal and clearing of natural vegetation cover from wilderness areas through which the separation barrier passes. This deprives wildlife of sources of food and shelter; and*
- *Habitat destruction and fragmentation affect all ecosystem goods and services”*⁶⁰⁷.

These elements allow the Environment Quality Authority to claim that the separation infrastructure can constitute a significant and long-term harm to the environment, considering the duration of the effects of a large-scale deforestation with tens of thousands of trees uprooted⁶⁰⁸. According to a 2015 report from the International Union for Conservation of Nature (IUCN)⁶⁰⁹, the challenges experiencing in terms of biodiversity conservation are attributable to “unplanned urban expansion, overgrazing, over-exploitation, deforestation land degradation, unplanned forestry activities, desertification and drought, invasive alien species, and pollution from different contaminants”⁶¹⁰, as well as direct consequences of the Israeli occupation such as “land confiscation, colonial settlements, bypass roads, and the fragmentation of habitats mainly as a result of the annexation and separation wall”⁶¹¹. Another consequence of the decrease in the land availability of Palestinian as a result of the occupation of larger and larger portions of land by the Israelis, causes a more intensive use of the remaining land⁶¹². The ICJ reports that Israeli policies have caused a loss of 3,000 km² of agricultural land⁶¹³. The area closed by Israeli authorities as municipal areas of settlements, in fact,

⁶⁰⁵ *Ibid.*

⁶⁰⁶ ENVIRONMENTAL QUALITY AUTHORITY. (2010). “The impact of annexation and expansion wall on the Palestinian environment”.

⁶⁰⁷ UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory 2020*. p. 56.

⁶⁰⁸ *Ibid.*

⁶⁰⁹ INTERNATIONAL UNION FOR CONSERVATION OF NATURE. (2015). *State of Palestine Fifth National Report to the Convention on biological Diversity*.

⁶¹⁰ *Ivi*, p. 5.

⁶¹¹ *Ibid.*

⁶¹² UNITED NATIONS ENVIRONMENTAL PROGRAM. (2020). *State of Environment and Outlook Report for the occupied Palestinian territory 2020*. p. 126.

⁶¹³ INTERNATIONAL LAW COMMISSION. (2001). Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries. Yearbook of the ILC. Vol. II.

are forty times larger than the built-up area of the actual settlements⁶¹⁴. Palestinians are not allowed into the municipal areas unless under a specific permission⁶¹⁵. To provide a more specific figure, Palestinians are allowed to pasture only on 35% of the rangeland⁶¹⁶. Again, 500 km² of land in Area C is restricted for the use of Palestinians either because of Israeli limitations on the access or the inadequate availability of water⁶¹⁷. The impact on land and soil can be summed up in reduction of productivity, reduction of vegetation cover, loss of biodiversity, desertification, and higher vulnerability to drought⁶¹⁸.

One of the marking traits of the natural environment is the cultivation of olive trees, which constitute about the 17% of the land in the West Bank⁶¹⁹. Especially olive trees are the subject of uprooting action by Israel to construct military bases, buffer zones, roads, and barriers⁶²⁰. The territory has a “wide range of crops that were domesticated approximately 10,000 years ago. The wild ancestors of wheat, barley, vines, olives, onions, and pulses crops, which today only occur in tiny remnants of natural vegetation, represent a vital resource for future crop breeding”⁶²¹. Olives are also one of the most sensitive crops to the climate⁶²², and are also one of the most shared symbols of the country, representing its culture, history, and identity⁶²³. In 2023, the United Nations Office for the Coordination of Humanitarian Affairs in the northern West Bank has reported that olive trees cultivations products in the Area C were

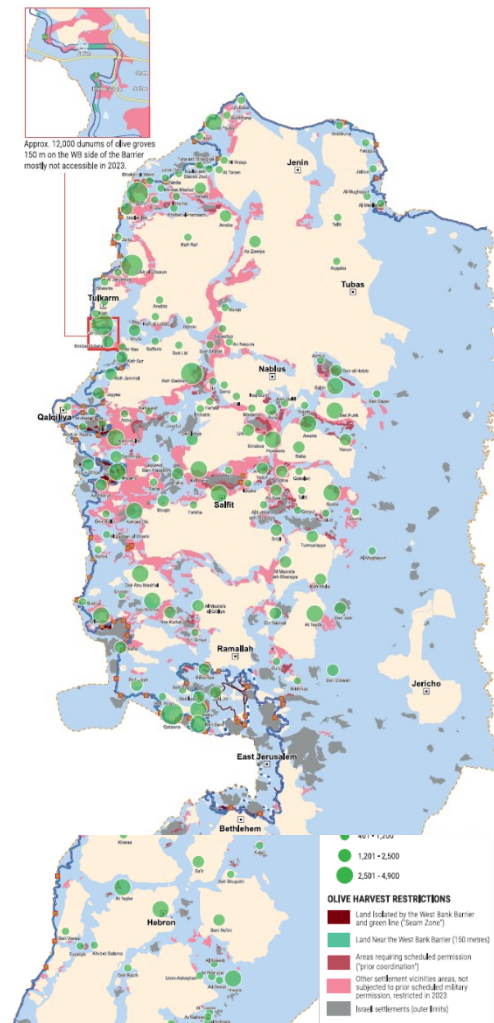


Figure 10 Olive Harvest restrictions (OCHA, 2023)

⁶¹⁴ Ivi, p. 128.

⁶¹⁵ *Ibid.*

⁶¹⁶ *Ibid.*

⁶¹⁷ *Ibid.*

⁶¹⁸ Ivi, p. 131.

⁶¹⁹ UNITED NATIONS ENVIRONMENTAL PROGRAM (UNEP). (2020). *State of Environment and Outlook Report for the occupied Palestinian territory 2020*. p. 126.

⁶²⁰ Ivi, p. 14.

⁶²¹ Ivi, p. 55.

⁶²² Ivi, p. 93.

⁶²³ UNITED NATIONS. (2023). “UN calls for protection of olive trees and of Palestinian Farmers amidst escalating Israeli settler violence”. 26 November 2023.

93% lower, comparing it to cultivations in territories regularly accessed by Palestinians⁶²⁴. Farmers, in fact, need to be granted a permit to access the land beyond the barrier through specific gates which are often kept close or open only for a noticeably brief period of time⁶²⁵. In 2017, of 223 eligible residents for the permits, only 27 of them were allowed in the restricted zone⁶²⁶. The UN estimates that about 800 km² have not been cultivated by Palestinians as a consequence of Israeli restrictions and violence⁶²⁷.

Concluding, the secretariat of the United Nations Convention to Combat Desertification reported that the rate of land degradation in Palestine amounted to 25,98% in 2019⁶²⁸, while, for instance, in Italy it was 12,46%. The incremental degradation of the state of the land in Palestine is a further effect of the Israeli-Palestinian conflict constantly threatening the nature environment.

6.2.4 Environmental context after 7th October 2023

Departing from the 7th of October 2023, the Levant region was engulfed in a new tragic phase of the decades-long Israeli-Palestinian conflict. According to the factual findings of a report from the Independent International Commission of Inquiry on the Occupied Palestinian Territory, including East Jerusalem, and Israel, on this infamous date, about a thousand people, components of the armed-wing of Hamas organization, the Al-Qassam Brigades, together with members of other organizations and civilians, broke out from the curtain surrounding the Gaza Strip and conducted a coordinated attack on a number of civilian communities and military bases in the south of Israel⁶²⁹. During the attack about 1,200 Israelis were tremendously killed and other 252 were taken as hostages back inside the Gaza Strip⁶³⁰. Within those brutally killed 809 were civilians, of which 40 children, 68 foreign nationals, 314 Israeli militaries⁶³¹. The Israeli response to the attack was not long in coming. The impact of the military response was such to cause a proper earthquake on the

⁶²⁴ UNITED NATIONS OFFICE FOR THE COORDINATION OF HUMANITARIAN AFFAIRS (OCHA). (2023). "Olive harvest 2023: hindered access afflicts Palestinian farmers in the West Bank".

⁶²⁵ UNITED NATIONS OFFICE FOR THE COORDINATION OF HUMANITARIAN AFFAIRS (OCHA). (2017). "Impact of the barrier on agricultural productivity".

⁶²⁶ *Ibid.*

⁶²⁷ UNITED NATIONS. (2023). "UN calls for protection of olive trees and of Palestinian Farmers amidst escalating Israeli settler violence". 26 November 2023.

⁶²⁸ UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION (UNCCD). (2019). "Report from State of Palestine, Performance review and assessment of implementation system". Seventh reporting process. 1 March 2023. p. 11.

⁶²⁹ UNITED NATIONS INDEPENDENT INTERNATIONAL COMMISSION OF INQUIRY ON THE OCCUPIED PALESTINIAN TERRITORY, INCLUDING EAST JERUSALEM, AND ISRAEL. (2024). "Detailed findings on attacks carried out on and after 7 October 2023 in Israel". Human Rights Council. A/HRC/56/CRP.3.10 June 2024. p. 6.

⁶³⁰ *Ibid.*

⁶³¹ *Ibid.*

international arena up to date. According an OCHA “reported impact snapshot” (yet to be verified by the UN but provided by the Ministry of Health and Israeli Authorities), from 7 October as of 15 October 2024, more than 42,409 people were reported killed in Gaza and 721 in the West Bank, together with almost 100,000 injured persons⁶³². The humanitarian catastrophe experienced by Gazans, together with the escalation of violence in the West Bank, touches upon every aspect of a human life, from lack of shelter, food, water, sanitation or education to reproduction complications and psychological trauma. The multidimensional nature, scale, and impact of the changes brought about by the Israeli conduct dominate the national, regional, and international discourse and debate since its outbreak. Far from aiming at discussing the various nature of these effects, the present section will analyze only the environmental degradation caused in Palestine, mostly in Gaza, by this new cataclysmic phase of the conflict. In doing so, no attempt to prioritize the environmental cause is being made. This section is intended to be complementary in character with other attempts to make international law prevail on its breaches, without for this diminishing other advocations protecting international rights and obligations.

In June 2024, UNEP published a preliminary assessment of the environmental impact of the conflict in Gaza which provides us with the most neutral information possible. The report derives from an official request from the State of Palestine of the December 2023 and could have been influenced by the fact that the conflict was ongoing, and restrictions of access were present during the research activity⁶³³. Field-based assessment work, for instance, has not been possible⁶³⁴. In the executive summary, it is already underlined that the environmental issues highlighted in the report are the ones of “serious concern”⁶³⁵, an expression with a precise legal meaning, as we have previously discussed. The report opens with a description of the conditions of Gaza’s environment prior to 7th October. In brief, UNEP’s analysis concluded that Gaza was already under a freshwater crisis, experiencing an increasing pollution of marine environment, continuous contamination of the soil, air and water from untreated waste and unregulated industries⁶³⁶. Moreover, in October 2024, the Palestine Environmental NGOs Network together with the Newcastle University published a report on the environmental impact of the war in Gaza addressing the excessively salinity or pollution of available water, the complete burning and deterioration of soil due to the continuous

⁶³² UNITED NATIONS OFFICE FOR THE COORDINATION OF HUMANITARIAN AFFAIRS (OCHA). (2024). “Reported impact snapshot”. 16th October 2024.

⁶³³ UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP). (2024). “Environmental impact of the conflict in Gaza: Preliminary assessment of environmental impacts”. Nairobi. p. 7.

⁶³⁴ *Ibid.*

⁶³⁵ *Ibid.*

⁶³⁶ *Ivi*, p. 12.

bombing and bulldozing activities, sampling of heavy toxic materials in the soil, impossibility of disposal of both solid and water waste⁶³⁷.

The outbreak of the new phase of the conflict had as primal effect the interruption of the environmental management and services together with deteriorating environmental conditions⁶³⁸. But the major threat to the environment is likely to be the destruction of systems of management for sewage, wastewater, and solid waste. All sources of water have been damaged or destroyed, from the desalination plants to the pipes, to the small water suppliers or wastewater disposal infrastructures. As a consequence, the reported cases of acute respiratory infections, diarrhea, scabies, and lice multiplied. In March 2024, only 5% of the usual water capacity was produced⁶³⁹. It is estimated that in April 2024 the level of water availability was 2-8 lcd, compared to the 85 lcd before October 2023⁶⁴⁰. The conflict has “cumulative effects” in increasing the number of polluting incidents and “long-term chronic pollution” because the absence of possibility to treat water⁶⁴¹. Importantly, the report also mentions the fact that two Israeli military operations, in 2008 and 2014, caused damage to treatment plants and polluting leakages⁶⁴². The soil in Gaza is described as porous by the UNEP, factor that enhances the possibility of sewage contamination⁶⁴³. Moreover, due to the high-water demand, seawater entered the aquifer and expanded laterally and vertically⁶⁴⁴.

Solid waste lack of disposal caused essential threats both to people and to the environment. Regarding the environment, contamination from important quantities of debris, UXO and weaponry will be enhanced and will enhance hazards from lack of solid waste disposal. The presence of debris is of exceptional dimension in terms of extension, spatial density, quantity, and levels of UXO contamination. Each square meter in Gaza is covered with 107 kg of debris⁶⁴⁵. The environmental impact from debris is strictly connected with the damage from bombing and fires, for example regarding the diffusion of asbestos, constituting hazardous waste. Debris disposal will be crucial for diminishing the environmental impact of the war, but in absence of this, the soil suffers serious degradation. Further environmental risk is also associated with energy deficiencies and pollution

⁶³⁷ “Ecocide in Gaza: the environmental impact of Israel’s war on Gaza”. (2024). PENGON, Newcastle University, UK Research and Innovation.

⁶³⁸ *Ivi*, p. 18.

⁶³⁹ *Ivi*, p. 19.

⁶⁴⁰ *Ivi*, p. 19.

⁶⁴¹ *Ibid*

⁶⁴² *Ibid*.

⁶⁴³ *Ibid*.

⁶⁴⁴ *Ibid*.

⁶⁴⁵ *Ivi*, p. 25.

from leaked fuel as well as fuel fires generating toxic gases. Even the solar panels, when destroyed, cause “widespread pollution”⁶⁴⁶.

The agricultural sector was severely affected by the war. About 42.6% of the cropland has been damaged, destroying trees, agricultural holdings, greenhouses, and irrigation infrastructure⁶⁴⁷. These damage may affect the long-term fertility of the soil and increase the risk of desertification⁶⁴⁸. Already back in 2009 UNEP warned that tree uprooting, movement of crops and thinned topsoil would impact on the agricultural capacity of the land⁶⁴⁹. This loss can affect cultural identity and livelihood. The contamination of the soil from ordnance posing and use is also a matter of serious concern. The weaponry used in Gaza causes large contamination from hazardous and toxic substances such as tritonal, H-6, Minol-2, and heavy metals⁶⁵⁰. Similar declarations were provided to the Anadolu Agency by the UN Special Rapporteur for Human Rights and Environment, David R. Boyd, according to whom Palestinians are subjected to an important toxicity from air, water, and soil pollution⁶⁵¹.

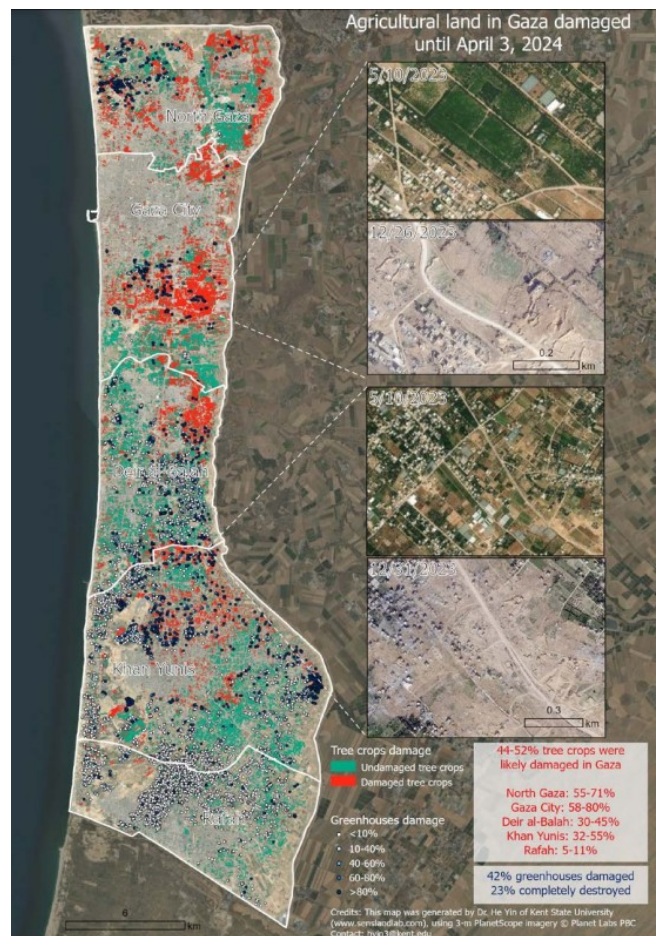


Figure 11 Agricultural land in Gaza up to 3rd April 2024 (UNEP, 2024)

According to the declarations from the environmental engineer Abeer Butmeh to the Anadolu Agency, the consequences of the current war on the environment will be severe and will last “for a very long time”⁶⁵². The “substantially likelihood”⁶⁵³ of a long-lasting environmental harm deriving

⁶⁴⁶ Ivi, p. 31.

⁶⁴⁷ Ivi, p. 32.

⁶⁴⁸ Ivi, p. 35.

⁶⁴⁹ Ivi, p. 35.

⁶⁵⁰ Ivi, p. 40.

⁶⁵¹ ALI R. (2024). “Poisonous effects of Israeli ‘ecocide’ will plague Gaza for years: Experts”. Anadolu Agency. 14.03.2024, update: 19.03.2024.

⁶⁵² ALI R. (2024). “Poisonous effects of Israeli ‘ecocide’ will plague Gaza for years: Experts”. Anadolu Agency. 14.03.2024, update: 19.03.2024.

⁶⁵³ wording from the STOP ECOCIDE FOUNDATION (2021). “Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text”. Art. 8ter.

from the conduct currently put into action by the Israeli government in Gaza was not ascertained up to date, also due to the impossibility of conducting field comprehensive research.

6.3 Legal considerations in support of the necessity of an independent international crime of ecocide and its “cumulative” character

The case study on the occupied Palestinian territory will now serve as a practical example in putting forward two lines of legal reasoning regarding the crime of ecocide. Firstly, it is arguable that the massive environmental damage withstood by the Palestinian territory from the hands of the State of Israel would hardly fall under the criminal protection of (and hence be prosecutable under) Art. 8(2)(b)(iv) of the Rome Statute, proving once again the need for the provision of an independent crime of ecocide. According to this line of reasoning, in fact, the current legal system would fail to protect natural elements against severe environmental damage originated in a context different from an armed conflict, even when the context does not diverge considerably from the latter, such as the case of an occupation. Hereof, the urgent necessity for a criminal provision that would not view the context as a legal requirement, while, instead, evaluating the effects of the act itself, considering its severity, together with its spatial and temporal dimension. Secondly, the conduct causing severe environmental damage on Palestinian natural resource are hardly distinguishable in terms of their effects, and therefore, it is virtually impossible to distinguish a single act causing the severe environmental damage. The damage, in fact, is more a result of a combination of acts committed over a certain time span. This demonstrates the necessity for the provision of the possibility to conceive the material element of the crime as a series of cumulating commissions or omissions, consisting in a “cumulative ecocide.”

Let us begin by expanding on the first argument, namely the reasons why it could be arduous to interpret the wording of the Art. 8 of the Rome Statute on War Crimes as applicable in the environmental situation deriving from an occupation. Lacking an official commentary of the Rome Statute, it is useful to consider the commentary provided by Ambos:

“*[F]or a specific conduct to amount to a war crime, the following elements are required:*

- *existence of an armed conflict?*
- *nexus of the conduct to this armed conflict?*
- *violation of a specific rule of IHL?*
- *is this violation of IHL criminalized under international law (...)?*”⁶⁵⁴.

For the sake of linearity and clarity, I will treat the elements departing from the last one upwards. Firstly, for what concerns the criminalization of the conduct under IHL, this requirement is met in the case of massive environmental damage. In fact, how it was discussed, the conduct of “widespread, long-term and severe” harm to the environment is criminalized under international law under Art. 8(2)(b)(iv) of the Rome Statute, under wartime circumstances. Continuing with the third element in the list, it can be regarded as met since the conduct is indeed a violation of specific rules of IHL, articulated in the Additional Protocol to the Geneva Conventions of 1977, particularly of Art. 35 and 55, as well as in the ENMOD Convention, as previously discussed. Now, the remaining two elements converge in the one focal point of our discussion: the legal meaning of armed conflict. Unfortunately, the ICC Statute provides no legal definition of armed conflict. Hence, we need to elucidate the notion of armed conflict as applicable by the ICC. The Court confided in the International Criminal Tribunal for the Former Yugoslavia’s (ICTY) jurisprudence for this definition. According to an ICTY ruling, the armed conflict takes place “whenever there is a resort to armed force between States or protracted violence between governmental authorities and organized armed groups or between such groups within a State”⁶⁵⁵. The Palestinian case appears not to fall in neither of these categorizations. In the first phase of the conflict from the birth of the State of Israel, the resort to the armed force took place mostly between Israel and other Arab countries. Concerning the resorts to armed force from the 1980s, and prior to the 7th of October 2023, between the Israeli state and Palestinian “organized armed groups”, they can hardly be defined as “protracted”, as the conflict knew moments of clash as well as prolonged periods of absence of armed confrontation. At the present *status quo*, the occupation of Palestinian territories cannot fall under the scope of the definition here presented. It would be pivotal to determine whether a long-

⁶⁵⁴ AMBOS K. (2022). *Rome Statute of the International Criminal Court*, Article-by-Article Commentary. Fourth Edition.

⁶⁵⁵ INTERNATIONAL CRIMINAL TRIBUNAL FOR THE FORMER YUGOSLAVIA. (1995). Decision on the Defence Motion for Interlocutory Appeal on Jurisdiction. Prosecutor v. Tadić, Case No. IT-94-1-AR72. Appeals Chamber. 2 October 1995. Para. 70.

lasting occupation could be considered a phase a conflict or as a consequence. If not, an individual committing War Crimes could argue for the lack of a conflictual context to escape prosecution. The person, however, would need to prove the continuing legality of the occupation, otherwise risking a prosecution under Article 8bis(2)(a) of the Rome Statute for the crime of aggression⁶⁵⁶. The fact itself that a long-lasting occupation does not fall under the scope of a particular criminal regulative framework leaves a space too broad for escaping responsibility. A last point to address would be the need for clarification from the ICC and IL scholars regarding the status of illegal occupation and its consequences in terms of individual criminal responsibility. For instance, an inspiration could come from Fraenkel's distinction between "war crimes" and "occupation crimes" as "crimes committed in the course of belligerent occupation of enemy-territory" by occupying forces against civilians, as murder, assault, and theft"⁶⁵⁷. So, could an illegal occupation fall under the scope of War Crimes? Would the legality of an occupation determine its status under the Rome Statute?

For the sake of completeness and clarity, it is to be underlined that one should not deduct or be persuaded that an occupying power is free from duties coming from international law. On the contrary, as we discussed, obligations to the occupying power derive from various legal instruments. Direct obligations to the occupying power derive from the 1949 Geneva Convention, under Section III from Art. 47 to Art. 79. The 1977 Additional Protocol I and customary law are other sources regulating the duties of states in protecting civilians under military occupation. However, it is the criminal responsibility of individuals implementing illegal conduct under territorial occupation that needs to be addressed. In this regard, the ICC Elements of the Crime reiterate that all the conduct Article 8 need to take "place in the context of and was associated with an international armed conflict"⁶⁵⁸. The text does not provide a definition of "armed conflict," but the text's footnote no. 34 clarifies that the wording "international armed conflict" "includes military occupation"⁶⁵⁹, without mentioning its legality or illegality. However, the key aspect is that the footnote equalizes military conflict to occupation only in the cases of "crime[s] under Article 8 (2) (a)"⁶⁶⁰. The same

⁶⁵⁶ UNITED NATIONS. (2010). Amendments to the Rome Statute of the International Criminal Court Kampala, 11 June 2010. Adoption of Amendments on the Crime of Aggression. Article 8bis(2)(a): "For the purpose of paragraph 1, "act of aggression" means the use of armed force by a State against the sovereignty, territorial integrity or political independence of another State, or in any other manner inconsistent with the Charter of the United Nations. Any of the following acts, regardless of a declaration of war, shall, in accordance with United Nations General Assembly resolution 3314 (XXIX) of 14 December 1974, qualify as an act of aggression:

a) The invasion or attack by the armed forces of a State of the territory of another State, or any military occupation, however temporary, resulting from such invasion or attack, or any annexation by the use of force of the territory of another State or part thereof;"

⁶⁵⁷ WRIGHT, Q. (1945). "War Criminals". *The American Journal of International Law*, 39(2). p. 261, footnote n. 20.

⁶⁵⁸ INTERNATIONAL CRIMINAL COURT (ICC). (2011). Elements of the Crimes. P. 9.

⁶⁵⁹ Ivi. footnote No. 34.

⁶⁶⁰ *Ibid.*

specification is not put forward for crimes under Article 8 (2) (b), and, significantly, not for the War Crime of excessive incidental death, injury, or damage. Hence, for what concerns the war crime of excessive incidental damage to the environment in a territory under military occupation, Ambos' requirement of the existence of an IHL rule is satisfied, but the requirement of existence of an armed conflict can be argued as not met in the situation of unlawful occupation or "continued presence"⁶⁶¹. Finally, even in the case in which the Israeli occupation specific case is argued to fall under the scope of the War Crimes under Art. 8 (2) (b) provisions, the uncertainty resulting from the formulation of the Rome Statute could affect other cases and it is sufficient to argue that, at least regarding environmental protection, a more comprehensive criminal structure including an independent crime of ecocide is needed. This, to ensure that legal bases exist to prosecute acts destroying the environment outside the context of an armed conflict.

The second line of reasoning and the last essential argumentation to be amplified at this final stage is that the formulation of an independent international crime of ecocide would need to provide for the possibility to conceive its material element both as a simple act and as a series of composed acts. Currently, the Rome Statute provision on the war crime of environmental damage does not clearly provide for the possibility of a conceiving the crime as a cumulation of acts that result in "widespread, long-term, and severe damage to the natural environment"⁶⁶², considering that it consists in "intentionally launching an attack"⁶⁶³. The necessity for the provision of the material element also as a series of commissions, and not only as a simple act, is supported by the Stop Ecocide Foundation's proposal. In fact, the commentary to the proposal defines "acts" in the proposed Article 8ter: "single acts or omissions, or cumulative acts or omissions"⁶⁶⁴. Truth be told, the proposal appears to go beyond the conception of "acts" as series of commission. In fact, despite a further explanation of the terminology not being provided in the commentary, it is arguable that, with the wording "cumulative," experts added a character of progressivity to the series of commissions. The acts do not merely have to coexist in the same circumstances, but also to aggravate one by one the environmental damage. In order to avoid basing the argumentation only on the interpretation of the word "cumulative" and lacking further clarifications from the

⁶⁶¹ INTERNATIONAL COURT OF JUSTICE. (2024). *Advisory Opinion on the legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*. Para. 261.

⁶⁶² INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Art. 8(b)(iv): "Intentionally launching 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".

⁶⁶³ *Ibid.*

⁶⁶⁴ STOP ECOCIDE FOUNDATION (2021). "Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text". Introduction. p. 10.

commentary, other legal instruments need to be considered. The Rome Statute, in particular, can guide our analysis towards the examination of the provisions regarding the current four international crimes. In fact, the proposal from the Stop Ecocide Foundation was not the first availing itself of the conception of an international crime constituted by multiple commissions of certain conduct. The possibility of conceiving a crime as a series of commissions is, therefore, not introduced by the Foundation. In general, the material element of two existing international crimes on four, is declined as a combination of single acts aggravated by the aggregated nature and/or context. The material element of the crime of genocide is “any of the [following] acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group”⁶⁶⁵. Again, a crime against humanity is such if the act is “committed as part of a widespread or systematic attack directed against any civilian population, with knowledge of the attack”⁶⁶⁶. In this regard, article 7 paragraph 2(a) of the Rome Statute states that an “(a)ttack directed against any civilian population’ means a course of conduct involving the multiple commission of acts”⁶⁶⁷. Concerning war crimes, the need for a multiple commission is not as straightforward, similarly to the crime of aggression. In the first case, the act is “committed as part of a plan or policy or as part of a large-scale commission of such crimes”⁶⁶⁸, but it is presumably possible to conceive it as a single act. In the second case, an “act of aggression” means the use of armed force by a State against the sovereignty, territorial integrity, or political independence of another State, or in any other manner inconsistent with the Charter of the United Nations”⁶⁶⁹. It is worth precisizing that in a number of cases a simple individual act can be internationally unlawful, but only by proving the existence of a practice surrounding the same act, can the wrongfulness of that same act be proven. So, to prove the wrongfulness of an act, for example its discriminatory nature, it can be necessary to prove a discriminatory context, despite the fact that the act is wrongful even in absence of a composite nature⁶⁷⁰.

At this point, it can also be useful to consider the wording of the Draft Articles on the Responsibility of States for Internationally Wrongful Acts⁶⁷¹ and its commentary, even if it can hardly be compared under a completely different set of rules such as international criminal law. Still,

⁶⁶⁵ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126. Art. 6.

⁶⁶⁶ *Ivi*, Art. 7.

⁶⁶⁷ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126.

⁶⁶⁸ *Ivi*, Art. 8.

⁶⁶⁹ UNITED NATIONS. (2010). “Amendment to the Rome Statute of The International Criminal Court, Kampala, 10 June 2010”. Adoption of Amendment to Article 8bis. P. 18.

⁶⁷⁰ INTERNATIONAL LAW COMMISSION. (2001). *Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries*. Yearbook of the ILC. Vol. II, Part Two. p. 63.

⁶⁷¹ INTERNATIONAL LAW COMMISSION. (2001). *Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries*. Yearbook of the ILC. Vol. II, Part Two.

the Draft Articles can help us identify and interpret the spirit of the law and the evolution of customary laws and international general principles. Article 15, in particular, treats the matter of breaches given by composite acts:

“1. The breach of an international obligation by a State through a series of actions or omissions defined in aggregate as wrongful occurs when the action or omission occurs which, taken with the other actions or omissions, is sufficient to constitute the wrongful act.

2. In such a case, the breach extends over the entire period starting with the first of the actions or omissions of the series and lasts for as long as these actions or omissions are repeated and remain not in conformity with the international obligation.”⁶⁷²

The commentary clarifies the meaning and applicability of the article in stating that composite wrongful acts give rise to breaches that are continuous and extend in time from the first action or omission in the series of acts making up for the conduct. This does not mean that the series of actions will be considered departing from the first action of the series, but from the first action that appeared belonging to a series of actions. The status of the first action would be considered “equivocal” until the assessment of the wrongfulness of the series to constitute the wrongful act⁶⁷³. Similarly, the wrongful act occurs when the further action is considered to be sufficient to amount to wrongfulness of the act, even if the act is not the last one of the series. Intuitively, in the case of Palestine, the legal establishment of the first action or omission causing serious environmental harm could be problematic to be determined, as well as the precise act marking the satisfaction of the requirement of wrongfulness. It is due to highlight that the ILC commentary specifies that the number of wrongful acts which must occur to amount to a breach of international obligation is not *a priori* established, but it must be “sufficient”⁶⁷⁴. But even if they reach an interruption before reaching the “sufficient” level, they could still be regarded as constituting a wrongful act, if, a posteriori and taken together, they reach the level⁶⁷⁵. A further clarification worth mentioning is that the time of the commission of the series of acts can be contextual, sequential, or desultory⁶⁷⁶. The acts or omissions need as well to be in aggregated form, not individual acts, and they are required to be acts in series defined as wrongful. Moreover, in the words of the commentary “(s)ome of the most serious

⁶⁷² *Ivi.* Article 15.

⁶⁷³ *Ibid.*

⁶⁷⁴ *Ibid.*

⁶⁷⁵ *Ibid.*

⁶⁷⁶ *Ibid.*

wrongful acts in international law are defined in terms of their composite character”⁶⁷⁷, for instance the crime of genocide, and their fundamentality explains the special treatment. The commentary argues that for such crime the cumulative character of the conduct is the essence of the wrongful act, which would not be such the conduct was an individual act of ethnically or racially motivated killing. A remarkable distinction to be highlighted is between a composite obligation and a simple obligation breached by a composite act, which is the focus of the idea of “cumulative ecocide” in the case of Palestine. Finally, it is worth noting that the ILC commentary specifies that even in the case that a cumulation of conduct is not required to constitute the material element of the crime, proving the existence of a continuous practice can be fruitful to produce evidence for the criminal prosecution of the act itself⁶⁷⁸.

Once again, the case study of environmental damage deriving from the Israeli occupation of Palestinian territory helps us arguing in favor of the necessity to provide both a single-act material element and a series-of-commissions material element. In fact, despite the severe environmental damage experienced in the Palestinian territory, it would be virtually legally impossible to identify a single act that caused the severe environmental impact. In fact, the damage was allegedly caused by a multitude of acts and omissions on the territory. The result would be a vacuum of environmental protection under criminal law. Given the possibility provided by the Rome Statute of conceiving the material element of a particular crime both as a single or multiple commission of acts (crime of genocide and crimes against humanity), one could claim that there is no necessity to differentiate between ecocide and cumulative ecocide. However, despite the proposed legal formulation of a single crime of ecocide under a single article, providing the possibility of differentiation between ecocide and cumulative ecocide (if not legally, at least rhetorically) could be useful to include complex and prolonged harms to the environment, as well as to determine an aggravating element. Such serious harm, in fact, is causable both by a single disastrous act (such as a nuclear bomb) and by a combination of multiple acts. As discussed, in the case of Gaza the continuous and progressive nature of the damage to the environment is especially striking. The Palestinian people rights over natural resources use and management in their territory were severely undermined by the Israeli policy of occupation in the OPT and by the limits imposed on Palestinian territorial sovereignty⁶⁷⁹. The prevention of Palestinians from managing and protecting their territorial resources represents the occupation’s most important indirect impact, which comes on top of the direct effects on the

⁶⁷⁷ *Ivi*, p. 62.

⁶⁷⁸ *Ivi*, p. 63. Para. 6.

⁶⁷⁹ ISAAC, J. AND HILAL, J. (2011) “Palestinian landscape and the Israeli Palestinian conflict”. *International Journal of Environmental Studies*. 68(4). p. 413.

environment. In the words of researchers Isaac and Hilal, “(w)ithout the ability to regulate land use over a contiguous area, natural ecosystems cannot be maintained, the status of the environment cannot be monitored, and environmental protection cannot be implemented and enforced”⁶⁸⁰. Israeli policies of territorial occupation can be viewed as a case of environmental and climate injustice. The environmental impact of the decade-long conflict between Israel and Palestine and Arab countries of the MENA region was addressed by reports and field research by international organizations and NGOs. However, a comprehensive concluding study cannot be conducted till the end of the conflict, a conflict that does not show signs of halting. On the contrary. The new phase opened by the 7th of October 2023 advances towards the concretization of a tremendous record: the number of losses for people of Arab ethnicity is likely to surpass the combined number of the past three most important armed clashes: the Nakba (about 15,000 people⁶⁸¹), the Six Days War (about 15,000 people⁶⁸²) and the Yom Kippur War (about 18,500 people⁶⁸³). Once again, the tragic humanitarian crisis is not the only crisis currently swamping Palestinians, and it does not prevent from addressing other crises. If anything, in fact, the analysis of alleged breaches of international non-humanitarian law can serve the purpose of complementing the discussion on breaches of humanitarian law itself. In this sense, the environmental crisis is analyzed under a complementary approach to the humanitarian crisis. The reasoning on environmental degradation does not attempt at sidelining or degrading the extremely needed focus on the humanitarian catastrophe while it is intended to have a complementary character to evaluate comprehensively distinct aspects of the same catastrophe. The environment is argued to be under threat of serious and long-term harm and degradation.

To conclude, for the reasons previously discussed using the example of the case-study of Palestine, it can be argued that the current status quo of international criminal law on environmental massive damage needs to be amplified to be able to persecute environmental massive harms that do not result purely from an armed conflict situation and that are cumulative in nature. The Stop Ecocide Foundation’s proposal is viewed as particularly valid precisely because of the inclusion of these two aspects: it would provide the possibility to prosecute environmental massive harms in contexts other than wars and the massive harm considered could result also from cumulative actions or omissions. Gradualness and progressiveness are distinctive marks of environmental degradation.

⁶⁸⁰ *Ibid.*

⁶⁸¹ WRIGHT J. (2024). “The Solemn History Behind Nakba Day”. *Time*.

⁶⁸² MACHAIRAS, D. AND SUMMERS, J. (2017). “The strategic and political consequences of the June 1967 war”. *Cogent Social Sciences*, 3(1). doi: 10.1080/23311886.2017.1299555.

⁶⁸³ LOS ANGELES TIMES. (1991). “Casualties of Mideast Wars”. 8th March 1991.

7 Conclusions

The present study aimed at deepening and enlarging the discussion on the international legal means, implications and developments concerning one of the most urgent issues of our time: environmental degradation. In particular, the analysis focused on the eventuality of enhancing environmental protection through international criminal law. The academic and institutional debate on the criminalization of massive environmental harm scattered departing from Arthur Galston's contribution in the 1970s and developed to be now livelier than ever. The essential issue to clarify was whether ecocide holds the legal standing to be criminalized independently from other international crimes under the Rome Statute. Once this issue had been addressed, the discussion centered on the most concrete proposal in this sense, the Stop Ecocide Foundation's proposal, branching out analyzing the elements of the crime, the *mens rea* and *actus reus*. On the basis of this analysis, the present dissertation proceeded by highlighting the strengths and weaknesses of the proposals, taking a cue to discuss the importance of specific requirements.

The study departed from a qualitative analysis of the relevant existing literature in the field of environmental law, states' responsibility and criminal law considering academic research, direct international legal sources, as well as reports from relevant international organizations. The dissertation opened with a presentation and discussion of the current legal system of provisions for the protection of natural resources under environmental law, focusing on the obligations for states deriving from the states' responsibility regime and for individuals deriving from the regime of the ICC Statute. Subsequently, the fourth chapter introduces the concept of ecocide and its evolution in the legal platform. The last one of these evolutive steps would consist of the proposal from the Stop Ecocide Foundation's expert panel for an amendment of the Rome Statute to criminalize ecocide as the fifth international crime. The analysis proceeded with a close up on the legal elements of the panel's definition of ecocide, especially regarding the *mens rea* of the crime. Despite its several merits, the proposal was subjected to constructive criticism concerning its limitations. The present dissertation contributes to the debate by underlying the two essential aspects to be included for an effective institution and implementation of such a crime: the absence of the armed conflict contextual element and the "design" of the *actus reus* both as a single conduct and as a cumulative conduct. The last chapter would, hence, focus on these aspects discussing environmental damage in the Occupied Palestinian Territory deriving from the occupation itself. The discussion would highlight the legal vacuum, or at least uncertainty, to which the current criminal system is subjected particularly in contexts of occupation. Territorial occupation, despite being strictly linked to armed conflict situations, in fact, could be argued as not constituting an "armed conflict" under the meaning

intended by the Rome Statute, resulting in an impediment to the prosecution of a conduct during a territorial occupation as a War Crime and creating a serious degree of uncertainty, if not a proper vacuum. Moreover, the analysis would showcase the importance of including in the definition of the crime of ecocide the possibility of prosecuting a cumulation of conduct which led to the serious and long-term of widespread, environmental damage. In other words, the actus reus of the crime needs not only to be defined as a single action, but multiple actions worsening one another the deterioration.

From the present study emerged an evolutive pattern of international law towards always stronger environmental protection, with the evolution of the approach itself. From an anthropocentric incidental approach, characterized by a fragmented system of treaties for the regulation of human resource exploitation, the discourse is gradually moving towards an ecocentric holistic approach, which would safeguard the rights of natural resources independently from its value for the human species. The milestones of the evolution have been the 1972 Stockholm Declaration and the 1992 Rio Declaration, both enunciating and leading the road to the consolidation of many of the principles today constituting customary law, such as the “good neighborliness” principle and the precautionary principle. Once the findings regarding an evolutive trend of environmental law had been unpacked, the research elaborated on the regime of consequences and liability for massive environmental damage. The paper registered a crucial distinction in the current system of environmental law between peacetime and wartime provisions. In fact, despite scholars pointing at the fact that the degree of damage should be the main driver of adjudication of a conduct, the main discriminating factor remains the contextual element. Virtually, for a conduct taking place in wartime both the regime of states’ responsibility and of personal criminal liability can be invoked, while for a conduct causing the same damage taking place in peacetime only states can be held accountable for massive damage to the environment. In fact, the only criminalization of massive environmental harm at the international level derives from article 8(b)(iv) of the Rome Statute⁶⁸⁴, which frames the conduct as a War Crime. Once the other options have been considered, the most practical approach to rebalance this gap in the protection of environment against massive harms, is

⁶⁸⁴ INTERNATIONAL CRIMINAL COURT. (1998). *Rome Statute of the International Criminal Court*. Rome. 17 July 1998. Entry into force 1 July 2002, in accordance with article 126.

“Article 8 - War crimes

1. The Court shall have jurisdiction in respect of war crimes in particular when committed as part of a plan or policy or as part of a large-scale commission of such crimes.

2. For the purpose of this Statute, "war crimes" means:

(b) Other serious violations of the laws and customs applicable in international armed conflict, within the established framework of international law, namely, any of the following acts:

(iv) Intentionally launching 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;”

the criminalization of ecocide as an independent crime, detaching it from the context of war. The most advanced proposal of amendment of the Rome Statute came from the Stop Ecocide Foundation's panel of experts in 2021. The proposal defines ecocide as "unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts."⁶⁸⁵ The legal strengths of the proposals concern the possibility of considering unlawful both unlawful or wanton conduct, as well as the mens rea requirement of knowledge instead of a higher threshold of intent, and the alternative character of the features of wide spreading and long-term duration of the damage. However, limits of this proposal concern the intrinsic limitations of the jurisdiction of the ICC in terms of *rationae personae* and *loci*. In response to this, it could be argued that the crimes provided for by the Rome Statute gain a status of *erga omnes* norms, being binding for nationals of non-state parties as well. Another limit of the IEP proposal is the mens rea requirement of "knowledge" which would establish an exaggerated threshold for an effective prosecution. According to the supporters of this point of view, the *mens rea* requirement should be the awareness of the substantial likelihood of massive damage. Furthermore, the element of irreversibility could be added in an alternative manner to the widespread and long-term duration of the damage, lowering the threshold of the *actus reus* by enlarging the types of damage falling under the scope of the article. In this sense, the damage would need to be judged as serious and either long-term, widespread, or irreversible. As a last point, by considering the environmental damage in the Occupied Palestinian Territory, the paper has shown a vacuum in the current criminal system, which, not only fails to criminalize massive environmental damage outside the context of war but also could be argued to be failing criminalizing conduct which are strictly linked to war, such as territorial occupation. Finally, departing from the same case study, we have also argued that, given the progressiveness characterizing environmental phenomena and issues, the *actus reus* of the crime of ecocide would need to be formulated both as a single disruptive act and as the gradual cumulation of conduct.

Theoretical and methodological issues could be viewed as limits of the research. Theoretically speaking, the research could be argued as limited in terms of its applicability. However, the scope of the thesis is to discuss the possibility of developing international criminal law as a further means for environmental protection aims and to contribute to the debate on how it could be implemented. The limits on the applicability are also a consequence of the nature of the international legal system itself, still based on states' consensus. For what concerns the methodology, a more quantitative approach could be developed to analyze the impact of the criminalization of conduct at the

⁶⁸⁵ STOP ECOCIDE FOUNDATION (2021). "Independent Expert Panel for the Legal Definition of Ecocide: Commentary and core text". Proposed Amendments to the Rome Statute, p. 5.

international level and, subsequently, to lead the road to a formulation of international crimes serving the scope of the safeguard of human rights, as well as the one of the effective prosecution of crimes. Further space for improvement regards the limitation of studies regarding certain aspects touched upon by this study which are currently under course of evolution. In this sense, a comprehensive study on the consequences of illegal territorial occupation in terms of international criminal responsibility appears worth developing for the international community. Finally, the research about the evolution of the crime of ecocide and its benefits to the international legal system could be enriched by a categorization of environmental damage in different contexts with research on the field. This would allow scholars and activists for the criminalization of ecocide to have a complete picture on the most adequate legal requirements for an effective prosecution of environmental crimes at the international level.

As a final note, this research attempted at paying its contribution to the wider, long-lasting environmental movement. The underlying view of this project approaches environmental protection from an ecocentric perspective, a perspective which aims at protecting the environment in and of itself, regardless of its utility for the human species. The study advocates for the protection of human rights as a tool for the protection of the biosphere's entirety, differently from the opposing view on the protection of natural resources as a humanity's asset. The environmental triple crisis the planet is experiencing requires a multidisciplinary approach, from which international law cannot be exempted, and which is actually expected to lead. As a consequence of international law's nature, the execution of international legal actors' decisions is often criticized as deficient. While not being able to change the nature of the system, international criminal law can provide a paramount instrument to enhance international accountability. Avoiding the international criminalization of massive destruction of natural resources could result in a striking missed opportunity to enhance environmental protection.

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8.3 International legal sources

8.3.1 Multilateral agreements

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