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An Analysis of the Interplay between Environmental Regulations and Armed Forces

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This Food for Thought paper is a document that gives an initial reflection on the theme. The content is not reflecting the positions of the member states but consists of elements that can initiate and feed the discussions and analyses in the domain of the theme. All our studies are available on www.finabel.org

DIRECTOR'S EDITORIAL

Canadian Former Prime Minister John Abbott famously said, “war is the science of destruction.” For as long as wars have been fought, the environment is often the silent victim of warfare; beyond human injury and suffering, armed conflicts leave a lasting ecological footprint, impacting biodiversity, water sources, and air quality.

Thus, environmental repercussions of armed conflicts are far-reaching and while discussions often centre on advancements in warfare technology, it is evident that the synergy between environmental protection and international law requires a nuanced examination. As the European Union expands its role in security and defence, questions surrounding the development of comprehensive legal frameworks for environmental protection during armed conflicts have come to the forefront. To safeguard our planet, nations must prioritise the protection of the environment. Embracing eco-friendly technologies and sustainable practices is not just an option but a necessity.

As the global community faces an era marked by geopolitical tensions, war, and environmental concerns, it is our hope that this paper will contribute to the ongoing dialogue on the necessity of robust legal frameworks aimed at protecting the environment.

Together, let us contemplate the path forward for ensuring the preservation of our environment both during conflict and not.



Mario Blokken

Director PSec

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ABSTRACT

In an era where environmental concerns are at the forefront of international discourse, this paper examines the intersection of legislation governing environmental protection and the activities of military forces worldwide with a particular focus on European Union Member States. To this end, case studies such as that of the 1991 Kuwaiti oil fires and oil spills are employed to illustrate instances where armed forces have disregarded environmental mandates. The tension between military neces-

sities and environmental protection forms a central theme, prompting a critical evaluation of the inherent conflicts and potential synergies. The paper concludes by highlighting the need for more consistent legislation as well as a more holistic approach to the protection of the environment. In essence, this paper highlights that there is no complete and comprehensive legal framework regarding the protection of the environment in general, let alone in military contexts.

LIST OF ABBREVIATIONS

Protocol I	Additional Protocol I
AU	African Union
AR	Augmented Reality
AV	Augmented Virtuality
ENMOD	Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques
CTC	Combat Training Centres
CSDP	Common Security and Defence Policy
CIL	Customary International Law
EC	European Commission
EP	Environmental Protection
EU	European Union
EEAS	European External Action Service
EUMC	EU Military Committee
EU MSs	European Union Member States
ICJ	International Court of Justice
ICRC	International Committee of the Red Cross
MTAs	Military training areas
NATO	North Atlantic Treaty Organisation
PCP	Pentachlorophenol
PFOA	Perfluorooctanoic acid
POPs	Persistent Organic Pollutants
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RoHS	Restriction of Hazardous Substances Directive
STE	Synthetic Training Environment
SOFA	Status of Forces Agreements
TPNW	Treaty on the Prohibition of Nuclear Weapons
TCN	Troop Contributing Nation
UNCLOS	United Nations Convention on the Law of the Sea
UNGA	United Nations General Assembly
UNSC	United Nations Security Council

INTRODUCTION

This paper aims to address the relationship between environmental regulations, legal practice, and warfare, focusing on relevant sustainable procedures. Chapter One addresses the normative framework of international environmental law related to warfare with a top-down approach. Chapter Two examines the 1991 Kuwait oil fires and oil spills as a case study. It also addresses the 1995 *New Zealand v France* International Court of Justice (ICJ) case through the lens of nuclear weapons and how the consequences of their test and use on the environment are addressed at international level. An analysis of the ICJ's 1996 Advisory Opinion follows, as well as of the 2017 Treaty on the Prohibition of Nuclear Weapons (TPNW). Chapters Three and Four delve into the environmental consequences and impacts of military equipment and training exercises, respectively. The third chapter focuses on the case study of Persistent Organic Pollutants (POPs) to highlight the effects of military equipment on the environment while introducing innovations to provide sustainable military equipment. The fourth chapter mainly focuses on the role of technology as a potential means of promoting more sustainable military training exercises, presenting promising alternatives to on-site live training while acknowledging challenges that need to be addressed. Lastly, the Chapter Five addresses the balance between operational effectiveness and environmental sustainability, focusing on EU strategies which implement higher environmental responsibility.

A methodological note to be pointed out to

narrow down the scope of the study is that it is primarily focused on EU Member States (EU MSs). Hence, it is important to highlight that all EU MSs have ratified the treaties under examination and that their national regulations are the subject of analysis. As far as case law is concerned, we decided to broaden the criteria by choosing the 1991 Kuwait oil fires as a case study, as they represented a turning point in the general awareness of the environmental field, and by analysing the testing and use of nuclear weapons through the lens of the 1995 *New Zealand v France* case and the ICJ's 1996 Advisory Opinion.

Multiple limitations encompassing the whole discourse characterise the researched topic. First, a challenge in this paper was putting together an exhaustive legal framework given the extreme fragmentation of international law and its subjectivity to the national will, particularly in the environmental field. For example, in the weapons area, the Biological and Toxin Weapons Convention of 1972 has been signed and ratified by most States worldwide. In contrast, other treaties, such as the TPNW, have yet to be ratified by many European countries and other influential ones. Second, the issue is constantly evolving, often with delays, due to its heavy reliance on scientific research and discoveries. Third, there is no universally applicable legal framework due to frequent exemptions in environmental regulations that apply to the military sector, and the fact that those dealing with environmental issues are only applicable in armed conflict excludes all military operations that

within this definition. Finally, most of the legislation is anthropocentric. Thus, this paper will focus on the treaties and jurisprudence which safeguard the environment to the extent that it is functional to human well-being. However, considering the evolution of inter-

national environmental law, ecocentrism—the idea that the environment has a right to be maintained in its whole, independent of any effects on humans—is an original viewpoint that future lawmakers should consider.

THE LEGAL FRAMEWORK

This chapter will investigate the existing rules and principles concerning environmental protection and warfare. The analysis will first deal with international law following the hierarchical nature of its sources and will then move on to regional and national legal texts.

Customary International Law

Customary International Law (CIL) consists of rules and principles that exist independently from treaty law. They are accepted by general state practice and, as such, are binding on all states. Moreover, CIL is considered at the top of the international law sources' pyramid and is applied by national and international courts.

The first treaties providing environmental protection during warfare date back to the end of the 19th century and the beginning of the 20th century—namely The Hague Conventions II and IV.¹ Most of the Conventions'

principles and their Annexes have evolved into customs of international law, eventually becoming binding even on States not formally parties to them. For this reason, the fact that certain European States have yet to sign or ratify these conventions did not preclude them from being added to the current analysis. The Regulations Concerning the Laws and Customs of War on Land, annexed to both the Hague II and Hague IV, provide environmental protection by setting measures of environmental standards that belligerents must comply with.² While Art 22 gives a general rule by providing that belligerents' rights to injure the enemy are not unlimited, Art 55 affords wartime environmental protection by regarding the occupying State "as administrator and usufructuary," thus protecting the capital of properties and mandating their administration according to the rules of usufruct.³ Furthermore, Art 23 of the Hague IV prohibits the employment of "arms, projectiles, or material calculated to cause unneces-

1. Mark P. Nevitt 'Environmental Law in Military Operations' in Geoffrey S. Corn, Rachel E. Van Landingham, and Shane R. Reeves U.S. Military Operations: Law, Policy, and Practice (2015) Oxford Academic.

2. International Conferences (The Hague), Hague Convention (IV) Respecting the Laws and Customs of War on Land and Its Annex: Regulations Concerning the Laws and Customs of War on Land, 18 October 1907.

3. *ibid.* arts. 22 and 55.

sary suffering.”⁴ At the same time, it embodies the principle of military necessity by forbidding unnecessary destruction of the enemy’s property.⁵ Nevertheless, these articles remain quite vague: they focus on human well-being instead of the environment as such and are not able to set necessary thresholds.

The precautionary principle is another core rule of CIL as far as the environment and warfare are concerned; it aims to protect the environment as such—instead of subordinating it to human injury—and applies during armed conflicts in general. Listed as Rule 44 by the International Committee of the Red Cross (ICRC), it mandates “due regard to the protection and preservation of the natural environment” and lists “feasible precautions” to be taken to “avoid, and in any event to minimise, incidental damage to the environment.” In addition, it clarifies that “lack of scientific certainty as to the effects on the environment of certain military operations does not absolve a party to the conflict from taking such precautions.”⁶

Treaty Law: International Conventions

A significant issue regarding treaty law is the fact that states are free to choose whether or not to sign, and most importantly, ratify the treaties in question.⁷ In many cases, states decide to sign a treaty and then do not ratify it, preventing them from being bound in a strategic sector. The defence field is undoubtedly one of these. Since these military-related conventions often include protecting the environ-

ment as one of their aspects, environmentally safer approaches are challenging to obtain on an internationally homogeneous scale. To avoid a patchwork approach and to provide a consistent and coherent analysis, the focus of this subchapter will be on EUMSs. Therefore, unless otherwise specified, all twenty-seven nations have signed and ratified the conventions discussed. Thus, the parties must comply with each of their provisions.

The 1977 Additional Protocol I (Protocol I) to the Geneva Conventions is regarded as one of the most significant legal documents with widespread international recognition. As for environmental protection, Articles 55 and 35(3) provide an important code of conduct which parties to an international armed conflict must adhere to. Art 55 states:

1. Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population.
2. Attacks against the natural environment by way of reprisals are prohibited.⁸

It outlines the obligation to protect the environment so that military operations do not result in “widespread, long-term, and severe damage”; this locution will be analysed more in detail below. A similar requirement applies under Art 35(3):

3. It is prohibited to employ methods or means of warfare which are intended, or may

4. Hague Convention (IV) (n2) art 23(e).

5. *ibid*

6. International Committee of the Red Cross (ICRC), Customary International Humanitarian Law Volume I: Rules (2005) 147-151.

7. See Chapter 2.1. “The Kuwaiti Oil Fires and Oil Spills” below.

8. International Committee of the Red Cross (ICRC), Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I) (1977) 1125 UNTS 3, art 55.

be expected, to cause widespread, long-term and severe damage to the natural environment.⁹

Article 35 addresses the issue from the perspective of military methods, whereas Art 55 focuses on population survival. As a result, although there is some overlap and a similar tone between the two provisions, they do not repeat one another. Although Art 35(3) is itself genuinely ecocentric, Art 55 emphasises that countries must not use destructive means and methods of warfare because “damage to the natural environment” will “prejudice the health or survival of the population.”¹⁰ ¹¹ Therefore, the environment is only protected to the extent to which it serves human interests rather than as something valuable in and of itself; this is a characteristic of a first generation of distinctly anthropocentric conventions.¹² A considerable limitation of these provisions is that Protocol I applies only in international armed conflict, which means that this protection does not apply to military training conducted in peacetime and in non-international armed conflicts.

The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD) became binding upon its Contracting Parties two months before Protocol I came into effect, and the Protocol’s adoption was strongly influenced by ENMOD itself. By acceding to ENMOD, a State Party agrees to refrain from using military force or any other hostile

application of environmental modification techniques that might result in widespread, long-lasting, or severe destruction, damage or injury to any other state which is a party.¹³ However, it was not designed either to control conventional warfare, which invariably harms the environment to differing degrees, or to govern other means of warfare (like nuclear or chemical weapons), even though they may have a negative impact.¹⁴ Not all EU member states have ratified the Convention, including France, Latvia, Portugal, Croatia, and Malta, which may impact compliance with it. For instance, in the case of the Kuwait oil fires, Kuwait’s participation in the Convention and Iraq’s non-ratification prevented enforcement mechanisms from being activated. On the other hand, its scope exceeds that of the Additional Protocols because it applies in peaceful and armed situations without impeding the peaceful application of environmental modification techniques.¹⁵ The Convention’s embrace of a broad definition of the “environment” is also noteworthy in light of the historical background. The concept of “environmental modification techniques” is defined as “any technique for changing the dynamics, composition, or structure of the earth, including its hydrosphere, atmosphere, lithosphere, biota, and atmosphere, or of space.”¹⁶ In Montego Bay, a few years after the adoption of ENMOD, in 1982, the United Nations Convention on the Law of the Sea (UNCLOS) was signed. Under UNCLOS,

9. *ibid* art 35(3).

10. *ibid* art 55.

11. Kevin Jon Heller and Jessica C Lawrence, ‘The Limits of Article 8(2)(B)(iv) of the Rome Statute, the First Ecocentric Environmental War Crime’ (2007) 20 *Georgetown International Environmental Law Review* <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=979460> 7.

12. Ben Pontin, ‘Research Handbook on Human Rights and the Environment’ (2015) 27 (3) *Journal of Environmental Law* <<https://doi.org/10.1093/jel/eqp024-531>>.

13. Convention on the Prohibition of Military or any other Hostile Use of Environmental Modification Techniques (adopted 10 December 1976, entered into force 5 October 1978) 1108 UNTS 151 (ENMOD) art 1.

14. John Alan Cohan ‘Modes of Warfare and Evolving Standards of Environmental Protection Under the International Law of War’ (2003) 15 (4) *Florida Journal of International Law* <<https://scholarship.law.ufl.edu/fjil/vol15/iss4/2>>.

15. ENMOD (n13) art 2.

16. *ibid* art 3.

“warship, naval auxiliary, other vessels or aircraft owned or operated by a State and used, for the time being, only on government non-commercial service”¹⁷ are exempt from applying the Convention. However, Art 236 UNCLOS requires States to take adequate steps to guarantee that vessels and aircraft operate in a way that is consistent with the Convention, as long as it is reasonable and practicable, without compromising military operations or capabilities. Notably, all European states, including the EU itself, are contracting parties, which further supported the integration of the Convention into CIL.

A more recent legal instrument that mentions the protection of the environment is the Rome Statute of 1998. The only provision which explicitly addresses the connection between harm to the environment and military operations is Art 8(2)(b)(iv), under the definition of war crimes. Other serious violations of the laws and customs applicable in international armed conflict, within the established framework of international law are any of the following acts: “[...] 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.”¹⁸

However, this article is limited by the proportionality test, which makes it unlikely that any convictions would result from it, as it only ap-

plies in cases of international armed conflict. Whether its approach is anthropocentric or ecocentric is still highly debated.¹⁹ The supporters of the former argue that in gaining a military advantage that is not excessive, it prioritises anthropocentric goals over ecocentric ones. Consequently, this orientation prejudices and precludes direct convictions on charges of endangering the environment.²⁰ On the other hand, the latter perspective contends that the Article might offer nonhuman environment protection which has never been seen before. The disjunctive “or” would indicate that the criminal responsibility in the Article is not dependent on harm to humans.²¹ A recent development regarding environmental protection and the effects of nuclear weapons is also worth mentioning: the TPNW. Adopted in 2017, the TPNW was not ratified by any European government except Austria, Ireland, and Malta. It provides a complete set of prohibitions on engaging in any nuclear weapon activity. The goal was to create a legally enforceable instrument to prohibit nuclear weapons, leading toward their total elimination. Among these are commitments to refrain from developing, testing, producing, acquiring, possessing, stockpiling, using, or threatening to use nuclear weapons.²²

Soft Law

In international environmental law, soft law is frequently employed and plays a significant role. It provides the required flexibility

17. Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3 (UNCLOS) art 236.

18. The Rome Statute of the International Criminal Court (adopted 17 July 1998, entered into force 1 July 2002), art 8.

19. See Matthew Gillett, ‘Environmental Harm as a Crime under the Rome Statute’ in Matthew Gillett, *Prosecuting Environmental Harm before the International Criminal Court* (Cambridge University Press & Assessment 2022); Heller and Lawrence (n 11) 99.

20. Gillett (n19).

21. Heller and Lawrence (n 11) 99.

22. Treaty on the Prohibition of Nuclear Weapons (adopted 7 July 2017, entered into force 22 January 2021) 3379 UNTS (TPNW) art 1(a) and (d).

and has the certainty of being written. Moreover, it is easier to negotiate a declaration of non-binding principles than a treaty where states are far more cautious. Additionally, it aids in crystallising an emerging custom and codifying one that already exists. It may also serve as a stimulus for the creation of a future custom: the soft law instrument is approved, starts serving as a model for states to follow, and finally results in the opinions and practices required to create a custom over time. This paragraph will outline some of the legal instruments that have been approved over the years, revealing the United Nations' (UN) ongoing vital involvement in this field.

On 28 October 1982, the UN adopted the "World Charter for Nature" which established a set of guidelines for the defence and conservation of the world's natural resources and habitats. The Charter defined five "principles of conservation" that should serve as a guide and standard for all human behaviour that affects the environment. Principle 5 stipulates that "Nature shall be secured against degradation caused by warfare or other hostile activities."²³ The wording—the mandatory "shall be"—of this Principle and of the others recalls a legal obligation; however, a close examination of the Charter text confirms that its purpose was solely to impose moral and political pressure on states and not to provide a standard that may be enforced by law.²⁴

Ten years later, the Rio Declaration was adopted. Principle 24 deals with warfare and its inherently destructive power; its first sentence

makes it clear that any situation involving armed conflicts is intrinsically incompatible with, and harmful to, the pursuit of sustainable development. Armed conflicts entail regression or, at best, stagnation of the sustainability process. In any case, the second prescriptive sentence emphasises environmental sustainability, indicating that the main thrust of the principle is a call to protect and strengthen environmental protection during armed conflict rather than the socioeconomic effects of war. This sentence anticipates two distinct requirements for states. Their first directive is to "respect international law providing protection for the environment in times of armed conflict."²⁵ The second declares that they will "cooperate in [the] further development" of that body of international law.²⁶

Various other non-binding UN instruments, such as General Assembly resolutions, are intended to raise awareness of environmental issues during armed conflicts. For example, the 1993 UNGA Resolution 47/37 "Protection of the environment in times of armed conflict" urged States to consider joining the pertinent international conventions, take steps to incorporate such provisions into their military manuals, and take all necessary steps to ensure compliance with the existing international law applicable to the protection of the environment in times of armed conflict.²⁷ More recently, in 2016, UNGA Resolution 2/15 "Protection of the environment in areas affected by armed conflict" emphasised the need to raise greater international awareness

23. UNGA World Charter for Nature (28 October 1982) A/RES/37/7 principle 5 (emphasis added).

24. Harold W. Wood, 'The United Nations World Charter for Nature: The Developing Nations' Initiative to Establish Protections for the Environment' (1985) 12 (4) *Ecology Law Quarterly*, 977–96 <<http://www.jstor.org/stable/2311285982>>.

25. UNGA, Rio Declaration on Environment and Development (13 June 1992), A/CONF.151/26 (Vol. I) principle 24.

26. Riccardo Pavoni and Dario Piselli, 'Armed Conflicts and the Environment: An Assessment of Principle 24 of the Rio Declaration Thirty Years on' (1 March 2022) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4071106>.

27. UNGA Res 47/37 (9 February 1993) UN Doc A/RES/47/37.

of environmental damage in warfare and the need to adequately protect the environment when it is affected by armed conflict. The Preamble reiterates the importance of safeguarding the natural environment for future generations because healthy ecosystems play a part in reducing the risk of armed conflict, indicating a markedly anthropocentric approach.²⁸ Last but not least, notable academic developments in this field include the 1994 Guidelines for Military Manuals and Instructions on the Protection of the Environment in Times of Armed Conflict, published by the International Committee of the Red Cross (ICRC), which is drawn from existing international legal obligations and state practice.²⁹ Finally, relevant work in this area is being done by the International Law Commission, including its 2022 draft report on the protection of the environment during armed conflicts.³⁰

EU and Environmental Regulations

When discussing EU regulations, it is important to bear in mind that since there is no record of any comprehensive, well-developed strategy implemented for environmental protection in the EU defence field, other sources and principles have to be looked at to put together the normative framework. First, the above-mentioned environmental protection instruments (conventions, customs, and soft laws) also apply to all EU MSs and in some instances even to the EU as its own entity. Second, there are many EU sectorial regu-

lations and directives which this paper will further cover in detail. However, they often contain derogations (permission to depart) or exemptions (coverage excludes) about military operations. Third, member state national legislation and other multilateral military agreements have greater significance in this context. For instance, Status of Forces Agreements (SOFAs), which specify the conditions under which military personnel and the civilian arm of an army can legally operate in another state, form the basis for military operations and missions spearheaded by the EU. Furthermore, each Troop Contributing Nation (TCN) is accountable and liable for the acts of its forces. The basis of this responsibility is found in duties under international agreements, national laws and regulations, and host nation legislation, which includes rules, regulations, limitations, and constraints. In case of conflict, the state should follow the most stringent environmental protection standard when a TCN has one that is stricter than local ones, provided that they do not clash.

Taking this into consideration, the 2021 “EU Concept for Environmental Protection and Energy Optimisation for EU-led Military Operations and Missions” provides some interesting recommendations. The EU Military Committee (EUMC) approved this document which aims to establish the principles and responsibilities to promote a common understanding of environmental protection during EU-led military operations and missions and to improve interoperability between

28. UNER Protection of the environment in areas affected by armed conflict (United Nations, 2016) <https://wedocs.unep.org/bitstream/handle/20.500.11822/11189/K1607252_UNEP-A2_RESOLUTION.pdf>.

29. ICRC, ‘Guidelines for Military Manuals and Instructions on the Protection of the Environment in Times of Armed Conflict’ (1996) 311 International Review of the Red Cross <<https://www.icrc.org/en/doc/resources/documents/article/other/57p38.htm>>.

30. ILC, ‘Draft principles on protection of the environment in relation to armed conflicts’ (United Nations, 2022) A/77/10 <https://legal.un.org/ilc/texts/instruments/english/draft_articles/8_7_2022.pdf> para 58.

the EU and other organisations. Indeed, it does adhere to NATO's guiding principles and policies on environmental protection to the greatest extent practicable. Most importantly, it applies to training and exercises, encouraging EU MSs and TCNs to use them.³¹ The military necessity principle is crucial in military operations. It allows for the prioritisation of military objectives over environmental protection when a conflict arises. However, using military necessity to justify environmental harm should be carefully considered and well-documented; most importantly it must be proportional to the threat and limited to what is necessary. Additionally, environmental and cultural sites are generally considered civilian targets. Thus, following the principle of distinction, they should not be intentionally targeted.³² According to the EUMC, taking proactive and preventive measures to limit environmental damage is crucial and more cost-effective than dealing with post facto waste disposal and damage rectification. Also, a reasonable standard of environmental care during the actual execution of EU-led military operations is vital. This criterion necessitates a good understanding of relevant environmental laws and procedures, demanding a cautious approach for the sake of the environment and a prompt response to incidents in line with the principle of sustainable development. At the same time, the integration of environmental considerations early in the planning process, along with continuous risk management during the operation, is highlighted. Looking ahead, as EU-led military operations are not intended to be indefinite,

it is imperative to manage their infrastructure and facilities appropriately during the redeployment phase. Complete abandonment is not viable for economic, environmental, and social reasons.

The "Polluter pays" principle establishes that those responsible for causing environmental damage have both an ethical and legal (and thus financial) obligation to manage or remedy the situation appropriately. Additionally, the EU and TCNs jointly share the responsibility to protect the environment of the host nation. Whenever it is technically feasible and cost-effective, it is advisable to address environmental damage at or near the location of the incident to minimise risks, costs, and emissions. Recognising the inherently multinational nature of EU-led military operations, the EUMC emphasises the diversity of national legal regulations regarding environmental protection. It also calls for a greater degree of harmonisation by establishing comprehensive environmental and energy principles and regulations for all EU-led military activities. Furthermore, achieving an adequate level of interoperability is crucial to facilitate cooperation during operations, particularly in the legal frameworks, procedures, standards, equipment, and materials related to environmental protection: the EU may consider best practices and experiences from other international organisations and countries when relevant.³³

In a nutshell, all Environmental Protection (EP) planning and implementation should also be done under the guidelines set forth by the EUMC. While implementing these ideas

31. Council of the European Union, *European Union Military Concept on Environmental Protection and Energy Efficiency for EU-led military operations* (2021).

32. *ibid*

33. *ibid*

will not ensure success, it will lay a solid basis for providing effective EP planning. As a result, it is the responsibility of every member of an EU contingent, both military and civilian, to make sure that their actions fully align with the overarching goals of the operation, international agreements, the concepts presented here, the SOFAs, and the applicable domestic legislation.

National European Legislation: A Comparative Analysis of the Damage to the Environment during War as a Crime

Across Europe, multiple states afford protection to the environment in warfare. It is helpful to highlight that national legislation contains international laws or customs, and, for this reason, these themes will be recurrent and often matching. Even though this analysis tries to be comprehensive, it cannot include all European legislations, willingly excludes military codes, and is based on the translations provided by the ICRC.³⁴

What is worth mentioning here in a comparative approach is the fact that the Belgian Penal Code,³⁵ the French Code of Defence and Penal Code,³⁶ the German Law Introducing the International Crimes Code³⁷ and the Dutch International Crimes Act³⁸ borrow the words from international agreements and punish whoever carries out an attack that may inflict widespread, long-term and severe damage to the natural environment excessive for

the planned military advantage. In all of these cases, the contextual element requires the existence of an international armed conflict. The German law includes both the prohibition of such an attack and the punishment for the attack caused by means which may be expected to provoke said damage. The Czech Republic's Criminal Code adopts different words. Under the "Crimes against humanity" section, it mandates for the punishment of a commander who, disregarding the provisions of international law, "destroys or damages [...] a place intentionally recognised concerning the protection of nature."³⁹ Lastly, the United Kingdom's International Criminal Court Act 2001, through a general provision, states that a war crime, as defined under Art 8(2)(b)(iv) of the Rome Statute, is a punishable offence.⁴⁰ As stated, states embed international laws, treaties, and customs to directly refer to these principles in their national legislations.

The following paragraph will analyse the similarities and differences among the above-mentioned national legislations. First, most of the texts cite international treaties and take the international law language to phrase the provisions, thus using "war crimes" or "crimes against humanity" as terms to define the crime. Moreover, the proportionality principle has frequently been taken as a baseline to set bare minimum standards for the damage to the environment concerning the military advantage. That said, fixed and clear standards still need to be reached. At the same time, while certain texts have broader coverage con-

34. ICRC Database Customary IHL, 'Practice relating to Rule 43. Application of General Principles on the Conduct of Hostilities to the Natural Environment' (ICRC, 2005) <<https://ihl-databases.icrc.org/en/customary-ihl/v2/rule43>>.

35. Belgium, Penal Code, 1867, as amended on 5 August 2003, Chapter III, Title I bis, Article 136quater, § 1(2).

36. France, Code of Defence, 2004, as amended in 2008, Article D4122-10. France, Penal Code, 1992, as amended in 2010, Article 461-28.

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

38. Netherlands, International Crimes Act, 2003, Article 5(5)(b).

39. Czech Republic, Criminal Code, 1961, as amended in 1999, Article 262(2)(d).

40. International Criminal Court Act 2001 (ICC Act 2001), ss 50(1), 51(1), and 58(1).

cerning the type of conflict, others merely mention crimes committed in international armed conflicts, eventually precluding the inclusion of non-international ones. As already observed throughout the whole chapter, most

of the provisions remain vague and lack any standards that could guide who is in charge of interpreting the laws.

CASE STUDIES

The Kuwaiti Oil Fires and Oil Spills

Legal Basis

Although Iraq had not at the time of the Gulf War, and still has not, ratified Protocol I and has only signed the ENMOD Convention (on 15 August 1977), this case study will nonetheless use the provisions in these treaties which are relevant to the protection of the environment to analyse Iraq's destructive actions. Also relevant to this analysis is paragraph 16 of UNSC Resolution 687: the Security Council "reaffirms that Iraq [...] is liable under international law for any direct loss, damage, including environmental damage and the depletion of natural resources, [...] as a result of Iraq's unlawful invasion and occupation of Kuwait."⁴¹

It was reported that at the 1974-1977 Negotiating Conference on the first two Additional Protocols to the 1949 Conventions, Italian delegate Mr Di Bernardo stated that Art 55 of Protocol I "marked a big step forward in the protection of the natural environment in the event of international armed conflict."⁴²

Between Art 35(3) and Art 55(1), the latter contains the Protocol's highest environmental damage threshold, including as it does the requirement for human injury.⁴³

Importantly, the opening of Art 55 states that "care shall be taken [...] to protect the natural environment,"⁴⁴ a significantly less stringent obligation than a prohibition. The duty of care is not explained further, but it does not need to be—the Rapporteur for Committee III, Protocol I stated that "[t]he first sentence enjoining the taking of care lays down a general norm, which is then particularised in the second sentence."⁴⁵ In fact, the protection of the first sentence is then qualified with a prohibition "of the use of methods or means of warfare which are intended or may be expected to cause such damage."⁴⁶ This proposition makes it clear that the scale mentioned must be at the very least, to a certain extent, foreseeable. The article then states that the damage must be "to the natural environment and thereby to prejudice the health or survival of the population,"⁴⁷ thereby specifying the recipient of the damage. The interpretation

41 UNSC Res 687 (8 April 1991) UN Doc S/RES/687 (1991), para. 16.

42 Plenary Meeting, O.R. Vol. VI, 27 May 1977, CDDH/SR.42, 208, para 20.

43 Karen Hulme, *War Torn Environment: Interpreting the Legal Threshold* (BRILL 2004) 75-78 <<https://brill.com/display/title/11197?language=en>>, 74.

44 Protocol I (n8), art 55(1) (emphasis added).

45 Report to the Third Committee on the Work of the Working Group, Committee III, 3 April 1975, O.R. Vol. XV, CDDH/III/275, 4.

46 Protocol I (n8), art 55(1) (emphasis added).

47 *ibid*

of this part of the article has been subject to some discussion, namely because, while it is clear that the envisioned environmental damage must be intentional or at least foreseeable, it is not clear to what extent human injury must be expected.⁴⁸ Is the environmental protection here anthropocentric or ecocentric? As for the second paragraph, Art 55(2) is fairly straightforward: it is a simple prohibition of reprisal attacks via damage to the environment.

At the same Conference, Mr Di Bernardo noted that the “adjectives ‘widespread,’ ‘long-term,’ and ‘severe’ qualifying ‘damage’ [in Art 55(1)] should be interpreted in accordance with the general feeling during the discussion on the article in Committee III...”⁴⁹ In fact, nowhere in the Protocol are those terms given a definition. Interestingly, Mexican delegate Mr Gonzalez-Rubio stressed that Mexico’s participation in the consensus for Art 55 “should not be interpreted as modifying in any way whatsoever”⁵⁰ his government’s position regarding ENMOD, in which “the words ‘widespread, long-lasting and severe effects’ were used but with a different meaning.”⁵¹ This seems to be the general consensus, as other delegations expressed similar objections.⁵²

Although Iraq has only signed ENMOD, and the sole signature of a treaty is not legally binding, Art 18(a) of the Vienna Convention on the Law of Treaties states that “[a] state is

obliged to refrain from acts which would defeat the object and purpose of a treaty when: [...] it has signed the treaty [...] subject to ratification, [...] until it shall have made its intention clear not to become a party to the treaty.”⁵³ That being said, ENMOD prohibits the engagement of any State Party “in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, or injury to any other State Party.”⁵⁴ The terms “widespread,” “long-lasting,” and “severe” were not given explicit definitions in the text of the Convention, but there was an official Understandings document drafted contemporaneously to ENMOD’s adoption, where State Parties agreed on definitions. These are the following: “widespread” means “an area of several hundred square kilometres;”⁵⁵ “long-lasting” means “several months or more, or approximately a season;”⁵⁶ and “severe” means “severe or significant disruption or harm to human life, natural or economic resources, or other assets.”⁵⁷ Most importantly, unlike in Art 55(1) Protocol I, these three criteria are disjunctive—only one must be true for the threshold of damage to be attained.⁵⁸ In fact, ENMOD’s aim is “to prohibit all military manipulations of the natural environment, [and this] is reflected in the relatively low requirements for breach.”⁵⁹

The Facts

The First Gulf War officially started when

48. See the discussion in Hulme (n43).

49. Plenary Meeting (n42), 208, para.21.

50. *ibid* 209, para. 25.

51. *ibid*

52. See the German Delegations comments in Plenary Meeting, O.R. Vol.VI, 27 May 1977, CDDH/SR.39, Annex, 115.

53. Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331, art 18(a).

54. ENMOD (n13), art. 1(1).

55. Hulme (n43), 90.

56. *ibid*

57. *ibid* 91.

58. *ibid*

59. *ibid*

Iraq invaded Kuwait on 1 August 1990, and it became a world affair when UNSC-sanctioned Operation Desert Storm began. The First Gulf War finds its roots in a previous conflict—the Iran-Iraq War—which spanned most of the 1980s. When the War ended, Saddam Hussein had, among others, an outstanding debt to pay to the Kuwaiti Emir Jaber III, which the Iraqi leader demanded be cancelled. Additionally, following the collapse of the price of oil,⁶¹ he demanded funds totalling 30 billion dollars from the Gulf Cooperation Council states,⁶² imbuing his demand with a threat: “Let the Gulf regimes know that if they do not give this money to me, I will know how to get it.”⁶³ Consequently, following his 25 July meeting with US Amba-

sador April Glaspie, in which he thought he had assured himself of the US’ “neutrality,”⁶⁴ Saddam decided to invade Kuwait. Initially, the international community tried to resolve the conflict through diplomacy, later moving on to UNSC resolutions demanding the liberation of Kuwait; in the end, Operation Desert Storm was launched on 16 January 1991. Kuwait was officially liberated on 28 February 1991, but Saddam decided to adopt a scorched earth policy: he “demonstrated a willingness to use the environment as a weapon of war by setting hundreds of oil wells afire and spilling thousands of gallons of oil into the Persian Gulf.”⁶⁵ From January 1991 and beyond 28 February of the same year, the Iraqi army set fire to an estimated 650 oil wells,⁶⁶ creating

60. UNSC Res 678 (29 November 1990) S/RES/678, para 2 authorised “Member States co-operating with the Government of Kuwait [...] to use all necessary means to uphold and implement resolution 660 (1990) and all subsequent relevant resolutions and to restore international peace and security in the area.”

61. Jeffrey A Engel, *Into the Desert: Reflections on the Gulf War* (Oxford University Press 2012) <<https://academic.oup.com/book/5851>>, 92.

62. Abdulrhman A Hussein, *So History Doesn't Forget: Alliances Behavior in Foreign Policy of the Kingdom of Saudi Arabia, 1979-1990* (AuthorHouse 2012), 256.

63. Janice Gross Stein, ‘The Security Dilemma in the Middle East: A Prognosis for the Decade Ahead’, in B Korany, P Noble, and R Brynen (eds), *The Many Faces of National Security in the*



Arab World. International Political Economy Series (Palgrave Macmillan, London 1993).

64. Norman Kempster, ‘Insider: U.S. Ambassador to Iraq Muzzled by Washington: April Glaspie Met with Saddam Hussein Shortly before His Army Invaded Kuwait. Now She Is a Bureaucratic Non-Person, And—Some Fear—a Scapegoat as the Administration’s Prewar Policy Is Debated.’ (Los Angeles Times, 5 February 1991) <<https://www.latimes.com/archives/la-sp-1991-02-05-wr-840-story.html>>.

65. Philippe Sands and others, ‘The Gulf War: Environment as a Weapon’ (1991) 85 Proceedings of the Annual Meeting (American Society of International Law) <<https://www.jstor.org/stable/25658582>>, 221.

66. Hulme (n43), 164.

plumes of soot which carried dust and ashes for more than 1,500 kilometres.⁶⁷ There were even reports from the end of January of “black rain” caused by the fires falling in Iran.⁶⁸ Additionally, the magnitude of the oil which the army spilled into the Gulf was pegged at ca. 2.5-3 million barrels.⁶⁹ Following the end of the war, Greenpeace reported that hundreds of square miles of Gulf water as well as sandy flatlands were covered by oil.⁷⁰

Analysis

When looking at the intent behind the attacks described, the above background history is relevant. It is arguable that, given the desperation with which Iraq wanted Kuwait and the importance that Kuwaiti oil had on the market, the attacks on the oil wells and the spilling of oil into the Gulf are reprisal attacks: if Saddam could not have Kuwait, then the country should suffer. Interestingly, the oil spilled was not only Kuwaiti but also Iraqi.⁷¹ However, this only furthers the argument that these oil spills were intentional and meant to be reprisals.

To allege a violation of Art 55 of Protocol 1, however, it is not only intent which must be established. Did the damage caused by the systematic blowing up of the oil wells and the oil spills reach the required threshold? The chemical reaction of oil burning involves the creation of smoke plumes and other toxic particles. Of the toxic chemicals released by the oil fires, it was recorded that sulphur di-

oxide, ozone, carbon monoxide, and nitrogen dioxide were all at unsafe emission levels.⁷² This occurrence arguably reached the Art 55(1) threshold of environmental damage, as sulphur dioxide is the main cause of acid rain and carbon dioxide is one of the leading causes of global warming;⁷³ it is well-known that both acid rain and global warming harm the environment, harming plant life and soil viability. Additionally, because of the smoke clouds, Kuwait experienced a 10°C temperature drop, and there was a 25% decrease in sunlight in the region at large.⁷⁴ The oil spills negatively impacted marine life, affecting important breeding grounds for thousands of wildlife species, including mangroves, coral reefs, and sea-grass beds, as well as causing damage to the sea turtle population.⁷⁵ Moreover, the number of respiratory illnesses significantly increased among the people of Kuwait, so if one chooses to interpret Art 55(1) as necessitating a level of human injury for the threshold to be reached, said threshold was arguably met.⁷⁶

According to the arguments set out above, in setting the oil fields alight and contaminating Gulf waters with oil, the Iraqis arguably violated both paragraphs (1) and (2) of Art 55—the attacks were either intended or could have been expected to cause damage to the environment, thereby leading to human harm, and it is arguable that the attacks were reprisals for losing control of Kuwait and losing the war.

67. David Choi, “Watch This Haunting 70mm Clip of Iraqi Forces Burning Oil Wells in a Scorched-Earth Policy” (Business Insider 27 June 2016) <<https://www.businessinsider.com/haunting-clip-of-iraqi-burning-oil-2016-6?r=US&IR=1>>.

68. William M Arkin, Damian Durrant and Marianne Cherni, “On Impact: Modern Warfare and the Environment: A Case Study of the Gulf War” (Greenpeace 1991) <https://coobs.org/wp-content/uploads/2018/03/Greenpeace-arkin-GulfWar-on-impact-modern-warfare-and.pdf_16-17>.

69. *ibid.* 18.

70. *ibid.* 17.

71. Hulme (n43), 164.

72. *ibid.* 164-165.

73. *ibid.* 165.

74. *ibid.*

75. *ibid.* 165-166.

76. See “FCO Briefing Note: Oil Pollution in the Gulf”, June 1991, reprinted in M. Weller, ed., *Iraq and Kuwait: The Hostilities and their Aftermath* (Cambridge: Grotius Publications Limited, 1993), 338.

Nuclear Weapons

Ever since the invention of the atomic bomb and the 1945 bombings of Hiroshima and Nagasaki, questions revolving around nuclear power and capabilities have been vehemently debated. Should states have nuclear weapons? Should all nuclear capabilities be destroyed? To the first question, the only EU member state which has answered positively is France, and the only additional European state which has nuclear weapons is the United Kingdom.⁷⁷ A few European states also host US nuclear warheads; these are Belgium, Germany, Italy, the Netherlands, and Turkey.⁷⁸ France, having its own nuclear forces, no longer stores US weapons.⁷⁹ Many states believe that the latter question—that of nuclear disarmament—should be answered in the positive. In fact, the Treaty on the Prohibition of Nuclear Weapons (TPNW) opened for signature on 20 September 2017 and entered into force on 22 January 2021, 90 days after the fiftieth state's ratification.⁸⁰

The discussion of nuclear power and nuclear weapons is relevant to the discussion at hand because, as the International Court of Justice (ICJ) conceded in its 1996 Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons, “the environment is under daily threat and [...] the use of nuclear weapons could constitute a catastrophe for the environment.”⁸¹ Unfortunately, however, “[e]

nvironmental considerations are few in times of war, and even then, protecting the environment is largely incidental to the existing restrictions in the laws of armed conflict.”⁸² It comes as no surprise, then, that in the past fifty years disputes have arisen between states regarding the legality of the testing and use of nuclear weapons. Particularly relevant here is the 1995 New Zealand v France case, where in New Zealand petitioned the ICJ for an “Examination of the Situation” arising from France's 1995 announcement that it would carry out eight underground nuclear weapons tests in French Polynesia.⁸³ The legal basis of the request was paragraph 63 of the previous 1974 New Zealand v France case, where a similar situation—France having announced it would carry out atmospheric nuclear testing in the South Pacific—gave rise to a dispute where New Zealand claimed that such an action would constitute a violation of international legal norms. It argued that radioactive fallout would cause marine and atmospheric pollution as well as interference with maritime and air navigation.⁸⁴ Even though that case was dismissed when France announced that it would not proceed with its planned atmospheric tests, the Court inserted a clause whereby “the Applicant could request an examination of the situation in accordance with the provisions of the Statute”⁸⁵ were the basis of that judgment to be affected. However, France's plans in 1995 were to conduct un-

77. Jonathan Masters and Will Merrow, ‘Nuclear Weapons in Europe: Mapping U.S. And Russian Deployments’ (Council on Foreign Relations 30 March 2023) <<https://www.cfr.org/in-brief/nuclear-weapons-europe-mapping-us-and-russian-deployments>>.

78. Note that these are all NATO member states.

79. Masters and Merrow (n77).

80. United Nations Treaty Collection, ‘Status of Treaties - 9. Treaty on the Prohibition of Nuclear Weapons’ (United Nations Treaty Collection 6 November 2023) <https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtidsg_no=XXVI-9&chapter=26>.

81. Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion) 2006 [30]

82. Arkin, Durrant and Cherni (n68), 23.

83. Stephen M Tokarz, ‘A Golden Opportunity Dismissed: The New Zealand v. France Nuclear Test Case’ (1998) 26 Denver Journal of International Law & Policy 745 <<https://digitalcommons.du.edu/cgi/viewcontent.cgi?article=1594&context=djilp>, 747.

84. *ibid* 746.

85. Nuclear Tests Case (New Zealand v France) (Judgment) [1974] ICJ Reports 1974, para 63

derground testing, not atmospheric testing, so the 1995 case was dismissed as well. Importantly, though, the Court stated in its later judgment that “the present Order is without prejudice to the obligations of States to respect and protect the natural environment, obligations to which both New Zealand and France have in the present instance reaffirmed their commitment.”⁸⁶

In his dissenting opinion, Judge Weeramantry went further, proposing the precautionary principle as a solution to the evidentiary difficulty (which makes it hard for the law to function in the protection of the environment) inherent in any state’s allegation “of possible environmental damage of an irreversible nature which another party is committing or threatening to commit.”⁸⁷ To define this principle, he cites Art 7 of the 1990 Bergen ECE Ministerial Declaration on Sustainable Development: “[e]nvironmental measures must anticipate, prevent, and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.”⁸⁸ According to him, where a state cannot have full scientific certainty as to the consequences of its actions on the environment, it should not undertake them.⁸⁹ Consequently, Judge Weeramantry believes that states should not plan activities which might involve serious or irreversible damage to the environment without first carrying out an Environmental Impact

Assessment, for which he lists necessary parts, including, namely, an “assessment of the likely or potential environmental impacts of the proposed activity and alternatives, including the direct, indirect, cumulative, short-term and long-term effects.”⁹⁰ Unfortunately, however, the case having been dismissed, his opinion is just that and is not legally binding.

Shortly after the 1995 New Zealand v France case and prompted by the General Assembly’s question on whether or not the threat or use of nuclear weapons is in any circumstance permitted under international law, the ICJ published its 1996 Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons. In it, in response to the fact that some states had argued that environmental treaties should only be applicable during peacetimes, it reformulated the issue as centring around whether these treaties created “obligations of total restraint during military conflict.”⁹¹ The Court recognised 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”⁹² and further stated that the “existence of the 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.”⁹³ Unfortunately, although the Court conceded that “States must take environmental considerations into account when assessing what is necessary and proportionate

86. Request for an Examination of the Situation in Accordance with Paragraph 63 of the Court’s Judgment of 20 December 1974 in the Nuclear Tests (New Zealand v France) Case, ICJ Reports 1995, para 64.

87. Request for an Examination of the Situation in Accordance with Paragraph 63 of the Court’s Judgment of 20 December 1974 in the Nuclear Tests (New Zealand v France) Case, Dissenting Opinion of Judge Weeramantry, ICJ Reports 1995, 342.

88. *ibid* 342.

89. *ibid* 344.

90. *ibid*

91. Legality of the Threat or Use of Nuclear Weapons (n81) [30]

92. *ibid* [29]

93. *ibid*

in the pursuit of legitimate military objectives,”⁹⁴ it concluded that the cited treaties could not have “intended to deprive a State of the exercise of its right of self-defence under international law because of its obligations to protect the environment.”⁹⁵ In short, even though the environment is important and its well-being should be taken into account as much as possible and should be considered as a factor when assessing whether a military action conforms with the necessity and proportionality principles,⁹⁶ military needs will take precedence. In fact, the Court replied to the General Assembly’s question that neither in customary nor conventional international law is there either any specific authorisation or any comprehensive and universal prohibition of the threat or use of nuclear weapons.⁹⁷ It added that “the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law,”⁹⁸ except probably if a state were to act in self-defence. The Court also unanimously concluded that there was a good faith obligation to pursue nuclear disarmament.⁹⁹

The good faith obligation which the Court wrote about seems to have materialised in the form of the Treaty on the Prohibition of Nuclear Weapons, the main objective of which is, as the name suggests, nuclear disarmament. Art 1(a) states that State Parties undertake “never under any circumstances to de-

velop, test, produce, manufacture, otherwise acquire, possess or stockpile nuclear weapons or other nuclear explosive devices.”¹⁰⁰ Particularly relevant to the Advisory Opinion discussed above is Art 1(d), where State Parties undertake “never under any circumstances to use or threaten to use nuclear weapons or other nuclear explosive devices.”¹⁰¹ Although the text of the Treaty itself does not mention the environment as an entity to be specifically protected, the Preamble cites it as one of the potential victims of the catastrophic consequences of nuclear weapons.¹⁰² The Preamble also cites the rules for the protection of the natural environment as being among the principles and rules of IHL on which the TPNW is based. Article 6 deals with environmental remediation measures “with respect to areas under [a State’s] jurisdiction or control contaminated as a result of activities related to the testing or use of nuclear weapons or other nuclear explosive devices.”¹⁰³ This is certainly a step forward, as ensuring the good health of the environment which future generations will live in is recognised as a priority.

As of November 2023, the TPNW counts 69 and 93 states among its State Parties and signatories, respectively, with the latest ratification having been Sri Lanka’s in September 2023. The Treaty is still young, and states are naturally slow to accept an obligation to disarm where they have nuclear capabilities, and the obligation to not develop them where they do not already have them.

94. *ibid* [30]

95. *ibid*

96. *ibid*

97. *ibid* [105(2)(A)-(B)]

98. *ibid* [105(2)(E)]

99. *ibid* [105(2)(F)]

100. TPNW (n22), art 1(a).

101. *ibid* art 1(d).

102. *ibid* Preamble.

103. *ibid* art 6(2).

The Impact of Military Equipment on the Environment

In the domain of warfare, where concerns include nuclear conflict, the contamination of military-produced chemicals, or the environmental ramifications of military activities, the ecological footprint of military equipment has come under intense scrutiny. The assessment, therefore, of the real influence of military equipment on the environment has become a compelling matter.¹⁰⁴ This examination can be extended to diverse departments; however, this chapter will analyse its connection to climate change, toxic substances, carbon emissions, and the regulatory measures aimed at mitigating its ecological consequences.

Military operations leave an indelible mark on the environment.¹⁰⁵ Water contamination, habitat degradation, and toxic waste generation are just some of the consequences of military activity that directly affect biodiversity. The generation and accumulation of large quantities of hazardous waste and its capacity to cross borders through air, water, and migratory species further deepen this ecological distress. This chapter will thus focus on a specific case study, the deployment of Per

sistent Organic Pollutants (POPs) and their environmental implications, which are currently regulated through the Stockholm Con

vention and Regulation (EU) No 2019/1021. POPs represent a class of compounds with toxic characteristics, remarkable for their persistence in the environment and their high prospects of infiltrating food chains, endangering both human health and the environment. While current military practices have phased out the use of most regulated POPs, the legacy of past deployments continues to plague the environment. For instance, Pentachlorophenol (PCP), a biocide and pesticide used in military textiles and tent canvas production, originates from wood treatment and represents a continuing environmental challenge. The cessation of its use does not mitigate its long-term influence, as treated timber can emit PCP, further aggravating its ecological implications, which include not only direct emissions to the air but also the leaching and contamination of rainwater, which then reaches the soil surface and groundwater¹⁰⁶. Moreover, emerging concerns include the involvement of newly regulated substances, such as perfluorooctanoic acid (PFOA), used in fire extinguishers and protective military equipment (such as military clothing with durability and waterproofing or equipment with products that improve the fire resistance of engine components and electrical wiring in military aircraft¹⁰⁷). Experts state that the substitution of PFOA raises difficult questions, potentially affecting military

104. Michael J. Lawrence and others, 'The effects of modern war and military activities on biodiversity and the environment' (2015) 23 (4) Canadian Science Publishing <<https://doi.org/10.1139/er-2015-0039>>.

105. *ibid*

106. European Commission, 'Commission staff working document — Impact Assessment Report, accompanying the document Proposal for a Regulation of the European Parliament and of the Council amending Annexes IV and V to Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants' SWD (2021) 300 final.

107. United States Government Accountability Office, 'Persistent Chemicals: Actions Needed to Improve DOD's Ability to Prevent the Procurement of Items Containing PFAS' (GAO, April 2023) <<https://www.gao.gov/assets/820/819510.pdf>>.

Innovations and Technologies for Greener Equipment

The impact of military equipment on the environment is highly relevant when tackling climate change. However, a question arises on whether the military is supposed to prioritise national interests or climate change. The answer to this question is evident from the high amount of partial or full military exemptions on regulations concerning the protection of the environment. Nonetheless, a shift in the sector seems to be happening in order to create a greener military, especially from the side of the US and the EU, through a series of innovations that reduce environmental harm and also make the pursuit of national interests more effective.

One prominent strategy centres on the adoption of new technologies to curtail military vehicle emissions, with electric military ve-

hicles at the forefront. The US Army, for instance, has started a challenging plan to electrify non-combat vehicles by 2030 and to introduce electric combat vehicles by 2050.¹¹⁴ A similar approach to tackle this issue has been under discussion by European experts. Advocates state that this type of strategy would both benefit the environment and bolster troop efficiency.¹¹⁵ Such an advantage would materialise because the vulnerability of supply lines providing fuel for vehicles, which tend to be a target of attacks during conflicts, would be significantly reduced, and so would the risks linked to them.¹¹⁶ Another proposal currently being tried is the so-called synthetic training environment. This innovative plan of action for training will be expounded upon in Chapter Four, addressing the evolving landscape of military training and its ecological implications.

APPLICATION IN MILITARY TRAINING AND EXERCISE

Impact of Military Training on the Environment

The environmental consequences of warfare are not limited to combat situations; they can also be related to and influenced by military training exercises and activities. Since military training exercises aim to prepare military personnel for real-world combat, they often

involve simulations of warfare in natural environments that closely resemble the situations soldiers may encounter on the field.

These simulations ensure that troops are fully prepared and equipped to handle the complex challenges of modern warfare, from tactical manoeuvres to strategic planning and execution, and training requires resources. The environmental impacts and stressors associ-

114. Michael Birnbaum and Tik Root, 'The U.S. Army has released its first-ever climate strategy. Here's what that means.' The Washington Post (Washington D.C., 10 February 2022) <<https://www.washingtonpost.com/climate-solutions/2022/02/10/army-military-green-climate-strategy/>>.

115. Ben Barry, Shiloh Fetzek and Caroline Emmet, 'Green Defence: the defence and military implications of climate change for Europe' (The International Institute for Strategic Studies (IISS), 2022) <<https://www.iiiss.org/globalassets/media-library---content---migration/files/research-papers/2022/green-defence---the-defence-and-military-implications-of-climate-change-for-europe.pdf>>.

116. Michael Birnbaum and Tik Root (n114).

ated with training activities are not limited to the training period; the development and operational use of military training bases can also influence them.¹¹⁷ The construction of complex infrastructure projects typically has a range of standard effects. These effects include habitat deterioration, soil erosion, and the introduction of chemical pollutants. As many of these projects are in natural environments, their construction can disrupt local biodiversity. The process involves clearing vegetation and disturbing the soil, which can lead to increased soil erosion, limiting future growth prospects and potentially impacting both undisturbed and previously degraded land, as well as wildlife.¹¹⁸

In contrast to the obvious and immediate outcomes of building operations, specific training exercises can have long-term and significant effects when carried out consistently and extensively. For instance, live-fire shooting ranges which involve the discharge of heavy metals such as lead-containing ammunition may contaminate the surrounding environment over time.¹¹⁹ Similarly, the widespread usage of heavy-armoured vehicles during training activities may substantially influence the local terrain and ecosystem. Furthermore, it is necessary to highlight that some accidents can happen during military drills, such as chemical spills (e.g. fuel and oil) or biohazard incidents (e.g. hazardous building materials, paints, solvents), which can contaminate nearby water sources and soil and expose the living population to some level of toxicity.¹²⁰ Given this consideration

and possible impacts, it is essential to comply with environmental laws in order to prevent pollution, and manage the environment and natural resources.

Environmental Considerations During Military Exercises

Military training exercises tend to be overlooked in legislation regarding the environment, as evidenced by the fact that international law on the subject applies to armed conflict and references attacks. Thus, legislation governing environmental protection during training exercises is incomplete and needs to be more transparent and expansive. In 2006, there was a first attempt, where a task force consisting of defence environmental leaders from the US, Finland, and Sweden was created to develop a handbook¹²¹ addressing ecological challenges in military operations. While the final product failed to integrate ecological concerns into operational planning, there was a better awareness of the environmental effects of military activities. Military exercises can cause long-term environmental changes, impacting local ecosystems and potentially harming the health and well-being of military personnel and civilian populations.

In 2017, a group of experts representing various countries collaborated on a targeted initiative, culminating in the development of “Environmental Tools for Military Activities.” This comprehensive resource provides customised environmental guidelines, checklists,

117. Michael J Lawrence and others, ‘The Effects of Modern War and Military Activities on Biodiversity and the Environment’ (2015) 23 *Environmental Reviews*.

118. Gustavo J Bobonis, Mark Stabile and Leonardo Tovar, ‘Military Training Exercises, Pollution, and Their Consequences for Health’ (2020) 73 *Journal of Health Economics* 102345 <<https://www.sciencedirect.com/science/article/pii/S0167629618311548>>.

119. Michael J Lawrence and others (n117).

120. Gustavo J Bobonis, Mark Stabile and Leonardo Tovar (n118).

121. Environmental Guidebook for Military Operations, 2008 <https://www.defmin.fi/files/1256/Guidebook_final_printing_version.pdf>.



and field cards for military exercises¹²². The primary goal was to develop generic processes and technological solutions that could be used throughout NATO and EU MSs, making it more straightforward for troops to use and access information while being environmentally conscious. The main objective of this document was to provide thorough instructions to develop environmental awareness. The first phase entails extensive preparation to ensure that the military exercise is compatible with and respectful of the environment.¹²³ If the environmental assessment is clear and the exercise can be carried out safely, it is done so under the strict observation of an environmental officer (phase two). During this stage, the officer is responsible for various tasks, including reporting and collaborating with logistical workers to review environmental concerns. The third and last phase is to evaluate the exercise's success, investigate observations made, validate planned corrective measures, and identify valuable lessons learned¹²⁴.

Compared to the 2006 project, this Guidebook is an improvement since it presents concrete guidelines; however, there are many gaps, and the scope is limited. Firstly, it does not provide new ways or training alternatives that can be more sustainable but only suggests how to be more attentive and aware. Secondly, there is a lack of coordination among different military branches, each facing unique environmental challenges (e.g. army, navy, air force). Thirdly, it does not offer guidance for biodiversity protection in military training areas (MTAs) or novel training initiatives designed to minimise environmental impact. Instead, it focuses on strategies for optimising the use of existing tools, only recognising that environmental considerations for MTAs require management.

The Way Forward: Advancements in Technology

The impact of the military on the climate and

¹²². Susan I. Clark-Sestak, 'Appendix A: Environmental Tools for Military Activities: Introduction' (Institute for Defense Analyses, 1 February 2019) <<http://www.jstor.org/stable/resrep22893.5>>

¹²³. *ibid*

¹²⁴. *ibid*

the environment is a silent casualty of war. With the advancement of technology, defence structures are embracing new innovative high-tech solutions which could offer a new approach in rethinking military training, particularly to reduce the environmental impact of live training exercises. Military technology has experienced considerable breakthroughs in training over the last few years thanks to innovations such as Augmented Reality (AR) and Augmented Virtuality (AV). Even if such technologies initially emerged as commercial gaming innovations, some leading countries' military sectors soon started using them as military training tools¹²⁵. These instruments enable soldiers to experience live simulations of war-like scenarios effortlessly, tailoring specific training exercises, resulting in a more immersive and holistic training experience. Conceived as a precautionary measure to engage in lifelike simulations without potential harm, these innovations can also serve as a valuable training tool with minimal environmental impact.

One of the latest developed technologies is the Synthetic Training Environment (STE). The STE is a system created to offer comprehensive training and mission rehearsal capabilities across different levels of military operations. It integrates live, virtual, and constructive training environments using AR and VR technologies.¹²⁶ One of the critical advantages of STE is its ability to recreate diverse terrains with remarkable accuracy, relying on satellite

data. This precision means that soldiers can prepare for deployments with a prior understanding of the specific environments which they will encounter.¹²⁷ By leveraging AR technologies, military personnel can engage in exercises that closely mimic real-life scenarios. With STE, users may edit and add ideal geographic characteristics such as mountains, valleys, lakes, and highways, allowing them to study hypothetical problems within their assigned area of responsibility. They can also deploy tactical forces, develop aerial support flight plans, and conduct fire missions.¹²⁸

As reported in the Military Equipment Framework on Synthetic Training Environment,¹²⁹ soldiers can undergo STE through collective training in various live environments, which include training events at Combat Training Centres (CTC), home stations (such as training areas and ranges), and deployed locations.¹³⁰ These immersive training exercises engage a soldier's senses beyond visual and motor, encompassing all five sensory experiences. STE also provides opportunities to master many other specialities, such as fire controllers, aeroplane pilots, and sappers. These capabilities include commanding an infantry unit, calling in support or cover, and instantly analysing the correctness of their actions.¹³¹

Although not originally intended as a new tool to lessen the military impact on the environment, such technologies offer a valuable alternative in adopting a greener approach. So far,

125. Cristian Țecu and Sorin Pinzariu, 'The Challenges of Simulation Training of the Troops in the Context of the Emerging Technologies' (2021) 26 (4) Land Forces Academy Review <https://intapi.sciendo.com/pdf/10.2478/rafr-2021-0041s>.

126. Bruce Gorski and Brian Parrish, 'Military Equipment Framework Synthetic Training Environment' (2017)

127. Jon Harper, 'Army Accelerating Synthetic Training Environment Programs' (2018) 103 National Defense <https://www.istor.org/stable/27022410>.

128. Mandy Mayfield, 'Army Has High Hopes for One World Terrain Training Tool' (2019) 104 National Defense 30.

129. Bruce Gorski and Brian Parrish, (n125).

130. John Antal, 'The Synthetic Training Environment (STE) for 2025 and Beyond' (Military Technology, 2017) https://www.academia.edu/40451225/The_Synthetic_Training_Environment_STE_for_2025_and_Beyond.

131. Samuel Cranny-Evans, 'Synthetic Environments: The Key to Realism in Military Training' (Army Technology, 26 May 2022) <https://www.army-technology.com/features/synthetic-environments-realism-military-training/?cEvview>.

they have proven to be a valuable alternative in delivering training and can be employed in several sectors and situations; however, it cannot replace actual live training. Furthermore, a real challenge for states desiring to use these new technological instruments is the related high cost, especially considering that some of the technologies presented still require testing and development. Another challenge is the inherent resistance among soldiers, attributable to the continuously evolving nature of such technologies and their apprehension toward adopting novel innovations. This reluctance is intertwined with the relatively recent acknowledgement of the military's environ-

mental implications and the focus on sustainability. The process of acclimating to these paradigm shifts is characterised by its time-intensive nature, especially when considering examples such as transitioning to cleaner fuels, which inherently require a significant temporal investment. Since synthetic training is already in place, it is a promising starting point for promoting a more sustainable approach in military practices. Integrating these sustainable methodologies into military training exercises can yield a substantial reduction in the military's ecological footprint.

THE BALANCE BETWEEN OPERATIONAL EFFECTIVENESS AND ENVIRONMENTAL SUSTAINABILITY

Potential Tensions Between Military Objectives and Environmental Preservation

The main tension concerning the interaction between military objectives and environmental preservation pivots around the juxtaposition of national interests against the imperative of environmental conservation. Until recently, the primacy of national security over environmental concerns was hardly questioned. Nonetheless, the increasing global awareness regarding environmental degradation and climate change has precipitated a review of this hierarchy of priorities. This discourse may find a suitable visual representation in the context of military exemptions—which aim to safeguard national interests—that prevail in environmental regulations. This reality illustrates an apparent reluctance to reconcile

the military and the environment as seemingly divergent objectives. However, there is a current shift toward a concept of coexistence of both objectives through the production of relevant instruments that would facilitate the creation of a cohesive framework on the matter.

To understand the scope of the phenomenon of military exemptions in environmental regulations, it is relevant to highlight their presence in two famous climate agreements. Firstly, the Kyoto Protocol, adopted in 1997, aimed to address global climate change by setting binding emission reduction targets for developed countries. This agreement, however, included a military emission exception, excluding it from targets and reporting requirements due to national security concerns. Within the Paris Agreement, adopted in 2015, a voluntary option for militaries to

account for their CO₂ offset replaced the military emission reporting exemption.¹³²

In a mitigated form, this trend is still being applied in EU environmental regulation, as explored earlier in the paper. Therefore, the importance attributed to national interests consistently surpasses the pressing need to protect the environment¹³³. However, this perspective is at odds with instruments provided by the EU, such as the EU Global Strategy (2016) and subsequently the EU Security Union Strategy (2020), which identify climate change as a potential threat to the EU.¹³⁴ Such developments raise the question of whether the environment could be seen as a national security issue. Following such an idea, the tensions arising between military interests and environmental protection would be alleviated, given their interconnectedness through this thread.

Strategies for balancing operational needs with environmental responsibilities

In recent years, a shift toward greener military policies has emerged due to, among other reasons, the increasing global awareness of environmental issues and the pressing necessity to address them. Consequently, policymaking may be established as a significant instrument to strike an effective balance between military needs and environmental responsibilities. This equilibrium has been, in a sense, disregarded beforehand, as can be perceived through the

high number of military exemptions presented in previous environmental regulations.

The EU has recently taken an initiative to transform its policies toward climate change, which is reflected in the Climate Change and Defence Roadmap. The roadmap is a part of the EU's Common Security and Defence Policy (CSDP) and was adopted in 2020. This guideline, submitted by the European External Action Service (EEAS) and established under the European Green Deal, intends to harmonise climate change considerations into defence strategies while contributing to the broader framework of the Climate-Security Nexus.¹³⁵

The roadmap contains three main inter-linked goals¹³⁶ that compose a competitive strategy for greening the military and bringing more sustainable awareness. The first goal, named Operational Dimension, aims to strengthen awareness regarding the severe and long-lasting impacts of military activities on the environment to highlight the pressing need to adapt defence strategies to the current and future environmental challenges. To reach this objective, the roadmap advises relying on the precautionary principle when creating a policy with these characteristics. In this sense, even though national defence is an urgent matter to delve into as soon as possible, the precautionary principle would instruct the relevant actors to move slower and more firmly, engage with the best available science, and work to find more suitable routes to meet the needs of both the military

132. Alina Liebholz, 'Military Exemptions: How One of the World's Largest Polluters Gets a Free Pass' (Impakter, 22 July 2023) <<https://impakter.com/military-exemptions-how-one-of-the-worlds-largest-polluters-gets-a-free-pass/>>.

133. Olga Hrynkiv, 'National security exceptions: a shield or a weapon? Balancing States' autonomy to adopt security measures and International Economic Law.' (Doctoral Thesis, Tilburg University 2023).

134. Ibid.

135. Giada Calamanti, 'Security and Climate Change linkage: Analyzing the European discourse until the Defence Roadmap' (Thesis, LUISS University 2021).

136. European External Action Service (EEAS), 'Climate Change and Defence Roadmap' (EEAS, 9 November 2020) <https://data.consilium.europa.eu/doc/document/ST-12741-2020-INIT/en/pdf/-_2>.

and the environment. This principle would help to view both military necessity and the environment as priorities falling on the shelf of national defence.¹³⁷

The second and third points of this plan, Capability Development and Strengthening Multilateralism and Partnerships, respectively focus on operational effectiveness and new challenges, especially energy efficiency, and on the fact that diplomacy should have an undisputed role in addressing climate change within the military sphere adequately. The former stresses the importance of ensuring the suitability of military equipment, even in extreme conditions and alludes to the aim of investing in the development of innovative technology. Strengthening Multilateralism and Partnerships, on the other hand, emphasises the importance of developing partnerships, from a strategic viewpoint for closer cooperation within the context of Security and Defence with international organisations and multilateral alliances, such as the UN, NATO, the Organisation for Security and Co-operation in Europe (OSCE), and the African Union (AU), as well as bilaterally with partner countries—including in the multilateral context. This element of the plan would enhance the commitment and implementation of greener military techniques, mainly if the focus is on the member nations. However, member state goals and plans for tackling climate-related security threats are less obvious, as there is no shared credibility on the EU level regarding climate-related security issues. While they ac-

knowledge the impact of climate change on warfare situations, some countries, such as Poland and Slovenia,¹³⁸ are more concerned about security threats in the current geopolitical environment.

On the other hand, like-minded EU member states are cooperating on addressing climate-related security risks; Ireland and Sweden¹³⁹ are keen to shift the debate on climate security toward more practical or technical discussions and tangible actions that can counter climate-related security risks. Ireland, in particular, promotes “[a] positive framing [...] focusing on the peace dividends of climate action.”¹⁴⁰ In this sense, climate action is emphasised as a means of peacebuilding and addressing instability. This approach could redirect attention toward allocating climate assistance by MSs and its impact on promoting peacebuilding and security.

The Climate Change and Defence Roadmap of 2020 is the latest step in developing the EU climate security policy. To uphold their credibility and effectively address security risks related to climate change, the EUMSs should work together to bridge the divide between what they advocate in words and what they put into action. This outcome can be achieved by leveraging existing policies, initiatives, and analytical research to initiate tangible projects on the ground with close collaboration.

Nevertheless, a query still needs to be answered regarding said roadmap. Is this response enough to balance environmental concerns and military activities? Some advisors have

137. Kurt Smith, ‘Environmental Protection, the Military, and Preserving the Balance: “Why it Matters, in War and Peace” (2020) 11 (1) Seattle Journal of Technology, Environmental and Innovation Law <<https://digitalcommons.law.seucl.edu/spell/vol11/iss1/5/>>.

138. Niklas Bremberg and Simone Bunse, ‘Advancing European Union Action to Address Climate-Related Security Risks’ (Stockholm International Peace Research Institute, 2023).

139. Government of Ireland, ‘Climate Roadmap 2023’ (2023) <<https://www.gov.ie/en/organisation-information/aat0dd-climate-roadmap-2023/>>; Swedish Climate Policy Council, ‘Report of the Swedish Climate Policy Council’ (2023) <<https://www.klimatpolitiskaeradet.se/>>.

140. Irish Department of Foreign Affairs, ‘Statement by Minister Coveney at the IEA Security Council Stakeholder Forum’, 21 May 2021.

highlighted their concerns regarding the unrealistic objectives set out by the roadmap and their reasoning for the traditional difficulty in maintaining long-term commitment and funding, especially in light of pressures to increase military capacity and shifting priorities

due to the tensions within the international community. However, better policy-making can help reduce the burden of military activities on the environment as long as they are reflected in practice through a proper long-term commitment from all parties.

CONCLUSION

As extensively pointed out, there is no complete and comprehensive legal framework regarding the protection of the environment in general, let alone in military contexts. Protocol I is the only instrument with some semblance of universal applicability; however, the US is an important missing contracting party and the Protocol only applies in international armed conflict. ENMOD applies both in peacetimes and war, but there is no jurisprudence useful in interpreting it. The Kuwaiti oil fires and oil spills would have arguably violated it, but Iraq has not ratified the Convention. Customary international law and soft law are valuable tools to fill the gap, but their enforceability depends on a violation of positive law. Therefore, the most useful and enforceable instruments remain national laws. Still, harmonisation remains an issue.

The environment has yet to be recognised as a proper entity deserving of its own right to protection—legislation tends to connect its protection to that of human beings. This anthropocentrism is particularly evident in Art 55(1) Protocol I, which directly links harm to the environment with human injury. However, there has been a marked shift in perspective, leading to extensive debates on the interpretation of legislation. For example, it is arguable that Art 8(2)(b)(iv) of the Rome Statute, within the definition of war crimes, offers protection to the nonhuman environment, not depending on any harm to humans. A more ecocentric view has also been taken in non-legally binding instruments such as the 1982 World Charter for Nature. While the

TPNW is not necessarily ecocentric, its Art 6 represents an important step forward, as it provides for the restoration of the status quo ante of the environment.

Military exemptions are another example of how the environment is not a priority: these are recurrent in international legislation (see UNCLOS) and EU regulations. On the one hand, this makes sense, as the armed forces' primary objective is national security—subjecting them to constrictions regarding the well-being of the environment could be more counterproductive than not. On the other, if humanity is not able to shift its priorities, there will come a time when environmental degradation will be such that it will be a threat to national interests by itself.

Despite the existence of military exemptions that underscore the impact of military equipment and training on the environment, the international community's ongoing efforts to implement more sustainable innovations and technologies within the military sector deserve commendation. Nevertheless, a notable debate persists regarding the efficacy of the proposed solutions, such as the STE or the United States' electric military vehicles. These innovations are, for the most part, in the developmental stage and remain cost-prohibitive for many nations. The critical question remains: are these sustainable initiatives cost-effective and accessible to various countries?

In addressing the environmental impact of military activities, it is essential to recognise that effective policymaking is emerging as the

overarching strategy. Such policies represent a long-term commitment from all relevant parties to mitigate the environmental burdens associated with military operations. This ap-

proach is necessary for a more sustainable and environmentally responsible global military landscape.

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Created in 1953, the Finabel committee is the oldest military organisation for cooperation between European Armies: it was conceived as a forum for reflections, exchange studies, and proposals on common interest topics for the future of its members. Finabel, the only organisation at this level, strives at:

- Promoting interoperability and cooperation of armies, while seeking to bring together concepts, doctrines and procedures;
- Contributing to a common European understanding of land defence issues. Finabel focuses on doctrines, trainings, and the joint environment.

Finabel aims to be a multinational-, independent-, and apolitical actor for the European Armies of the EU Member States. The Finabel informal forum is based on consensus and equality of member states. Finabel favours fruitful contact among member states' officers and Chiefs of Staff in a spirit of open and mutual understanding via annual meetings.

Finabel contributes to reinforce interoperability among its member states in the framework of the North Atlantic Treaty Organisation (NATO), the EU, and *ad hoc* coalition; Finabel neither competes nor duplicates NATO or EU military structures but contributes to these organisations in its unique way. Initially focused on cooperation in armament's programmes, Finabel quickly shifted to the harmonisation of land doctrines. Consequently, before hoping to reach a shared capability approach and common equipment, a shared vision of force-engagement on the terrain should be obtained.

In the current setting, Finabel allows its member states to form Expert Task Groups for situations that require short-term solutions. In addition, Finabel is also a think tank that elaborates on current events concerning the operations of the land forces and provides comments by creating "Food for Thought papers" to address the topics. Finabel studies and Food for Thoughts are recommendations freely applied by its member, whose aim is to facilitate interoperability and improve the daily tasks of preparation, training, exercises, and engagement.



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