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Ecocide in the Middle East? A Case Study of the ICC Investigation on the Situation in the State of Palestine

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Abstract: The risks possessed by the environmental consequences of armed conflict for the very foundations of human living conditions have been long studied. However, nature continues to be impaired by wars the world around, while the relevant provisions of international humanitarian and criminal law prove to be inadequate. Despite these pitfalls, recent figures on the scale of the environmental destruction caused during the 2023 Israel-Hamas conflict deserve a thorough legal analysis. On the occasion of the warrants of arrest issued by the International Criminal Court against Israeli leaders, this paper seeks to assess whether there were reasonable enough grounds to charge them with causing excessive environmental damage. In order to do so, the present study will first conduct a comprehensive review of the criminal elements of Article 8(2)(b)(iv) of the Rome Statute, based on previous literature and relevant jurisprudence of international criminal tribunals. Afterwards, employing both analytical and doctrinal methods, it will contrast the legal findings against the factual background of the case. With the aim to stress the necessity of enhancing the current legal framework to protect the environment during both war and peace, this paper elaborates further on the limitations of the war crime of excessive environmental damage, while shedding light on the unnoticed environmental violence placed upon Gaza.

Keywords: ecocide environment Israel Palestine International Criminal Court Rome Statute

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(A) INTRODUCTION

On 21 November 2024, the International Criminal Court (ICC) Pre-Trial Chamber I made public the warrants of arrest for both Israel's Prime Minister Benjamin Netanyahu and former Minister of Defence Yoav Gallant.[1] The warrants were issued for allegedly committing the following crimes within the ICC's jurisdiction against the Palestinian population. On the one hand, the war crimes of starvation of civilians as a method of warfare (Article 8(2)(b)(xxv) of the Rome Statute or RS) and intentionally directing attacks against civilian population (Article 8(2)(b)(i) RS). On the other hand, the crimes

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1 'Situation in the State of Palestine: ICC Pre-Trial Chamber I rejects the State of Israel's challenges to jurisdiction and issues warrants of arrest for Benjamin Netanyahu and Yoav Gallant', ICC, published on 21 November 2024, accessed 31 January 2025. The Chamber also issued a warrant of arrest for the leader of Hamas' military wing, the al-Qassam Brigades, Mohammed Diab Ibrahim Al-Masri. However, at the time of writing Hamas has confirmed his death and accordingly the Court has withdrawn the charges. See, *Situation in the State of Palestine*, 'Decision terminating proceedings against Mr Mohammed Diab Ibrahim Al-Masri (Deif)', 26 February 2025, ICC-01/18-417.

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against humanity of murder (Article 7(1)(a) RS), other inhumane acts (Article 7(1)(k) RS), and persecution (Article 7(1)(h) RS).[2]

During the Preliminary Examination, the ICC Office of the Prosecutor (OTP or the Office) found reasons to believe that "the Israeli Defence Forces [IDF] committed the war crime of intentionally launching disproportionate attacks in relation to at least three incidents (Article 8(2)(b)(iv))".[3] However, the OTP never clarified whether these disproportionate attacks referred to civilian casualties or injuries, or damage to either civilian objects or the natural environment as provided for in Article 8(2)(b)(iv) of the Rome Statute.[4] Ultimately, the Office dropped these charges in its official application for the referred warrants of arrest and therefore precluded the Court of any examination on the merits of an alleged war crime of environmental damage, at least with respect to the involvement of Mr. Netanyahu and Mr. Gallant.

Bearing in mind recent figures on the scale of the environmental destruction in Gaza and the little attention that international legal literature is devoting to the environmental dimension of the conflict so far, this paper seeks to analyse whether there were sufficient grounds for an indictment under Article 8(2)(b)(iv) RS, second alternative.[5] As one author has put it, "the recent war on the Gaza Strip is a case study of illegality and arguably of environmental catastrophe".[6] In this regard, we use ecocide merely as a doctrinal, descriptive term which encapsulates the most serious cases of mass-scale damage to the natural environment, whether in times of war or peace.[7] We do not confer it normative content inasmuch as it is not yet recognised as a crime under international law, even though there are those who have characterised the acts criminalised by Article 8(2)(b)(iv) RS, second alternative, as wartime or military ecocide.[8] Thus, the reference to ecocide serves us to depict the type of devastation caused in Gaza, and to compare it against the deficiencies of

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2 For a general analysis of the conflict's legal issues, see, e.g., R. van Steenberghe, 'The Armed Conflict in Gaza, and Its Complexity under International Law: Jus Ad Bellum, Jus in Bello, and International Justice', 37 Leiden Journal of International Law (2024) 983-1017 [doi: 10.1017/S0922156524000220]; T. Dannenbaum and J. Dill, 'International Law in Gaza: Belligerent Intent and Provisional Measures', 118 *American Journal of International Law* (2024) 659 683 [doi: 10.1017/ajil.2024.53].

3 ICC, OTP, *Report on Preliminary Examination Activities 2020*, 14 December 2020, par. 221.

4 Henceforth any mention to Art. 8(2)(b)(iv) without further reference must be understood to mean the Rome Statute.

5 According to a World Bank's assessment, the direct damages to the environment (including agriculture) are worth an estimate of US$1 billion. See, World Bank, European Union, and United Nations, *Gaza Strip Interim Damage Assessment: Summary Note*, 29 March 2024, at 6.

6 M. B. Qumsiyeh, 'Impact of the Israeli Military Activities on the Environment', 81 *International Journal of Environmental Studies* (2024) 977 92, at 9 [doi: 10.1080/00207233.2024.2323365].

7 On ecocide see, e.g., D. Robinson, 'Ecocide Puzzles and Possibilities', 20 *Journal of International Criminal Justice* (2022), 313 47 [doi: 10.1093/jicj/mqac021]; L. G. Minkova, 'The Fifth International Crime: Reflections on the Definition of "Ecocide"', 25 *Journal of Genocide Research* (2023), 62 83 [doi: 10.1080/14623528.2021.1964688]; E. Cusato and E. Jones, 'The "Imbroglio" of Ecocide: A Political Economic Analysis', 37 *Leiden Journal of International Law* (2024), 42 61 [doi: 10.1017/S0922156523000468].

8 P. Hough, 'Trying to End the War on the World: The Campaign to Proscribe Military Ecocide', 1 *Global Security: Health, Science and Policy* (2016) 10 22, [doi: 10.1080/23779497.2016.1208055]; R. Killean, 'Ecocide's Evolving Relationship With War', *Environment and Security* (2025) [doi: 10.1177/27538796251347111]. View which we ourselves share in J. Rigo-García, 'Ecocide: From a War Crime to an International Crime?', 23 *The Opole Studies in Administration and Law* (2025) 97 124 [doi: 10.25167/osap.5413].

the current international criminal legal framework,[9] the only provision of which currently dealing with environmental harm directly is the aforementioned Article 8(2)(b)(iv).[10]

After briefly introducing the procedural background of the investigation, we will turn to the complexities of that provision and assess its compatibility with the situation in the Gaza Strip. To this end, the study, mainly limited *ratione temporis* to November 2024 (i.e., the date on which the warrants of arrest were issued), is divided in three major analyses: legal, factual, and evidentiary. It must be stressed that this paper will not engage with the merits, or lack thereof, of other Israel's or Hamas actions and policies, regardless of how unlawful they may be.[11] It will certainly not discuss their possible qualification as genocide under the ongoing proceedings before the International Court of Justice (ICJ). This is not to rest importance to both sides' wrongdoings committed under Israel's continued regime of occupation on Palestinian territory, but to highlight another violation of international law which has received less attention so far. Although environmental harm during either an international (IAC) or non-international (NIAC) armed conflict, or an occupying context, could be addressed through other provisions under the Rome Statute, this paper will focus solely on the prohibition provided for in Article 8(2)(b)(iv), second alternative, as it stands today, and whether the environmental damage caused by the conflict in the Gaza Strip since October 2023 may amount to a violation of it.[12]

All things considered, this could be a significant opportunity for the Prosecutor to demonstrate their "commitment to the rigorous investigation and prosecution of environmental crimes", as stated in the OTP's new Draft Policy on Environmental Crimes (Draft Policy).[13]

(1) Procedural background

The procedural and substantive history of the ICC's investigation on the *Situation in the State of Palestine* (ICC-01/18) can be consulted through several sources.[14] As far as we are

9 During the Rome Conference, three scope-diverging versions of Art. 8(2)(b)(iv) were originally discussed, the finally adopted falling back, in the words of Freeland, "on the traditional and outdated approach that environmental harm is to be regarded as an unfortunate 'bi-product' of warfare". See, S. R. Freeland, *Addressing the Intentional Destruction of the Environment during Warfare under the Rome Statute of the International Criminal Court* (Intersentia, Louvain-la-Neuve, 2015), at 206; and UN Diplomatic Conference of Plenipotentiaries on the Establishment of an International Criminal Court, 3 *Official Records*, "Reports and other documents", 2002, UN Doc. A/CON R183/13(Vol. III), at 16.

10 On 9 September 2024, Vanuatu filled an amendment proposal to add ecocide as the fifth crime against peace in the Rome Statute, embracing entirely the definition put forward in 2021 by the Independent Expert Panel convened by Stop Ecocide Foundation. See, ICC, Assembly of States Parties, *Report of the Working Group on Amendments, International Criminal Court*, 1 December 2024, ICC-ASP/23/26. For the original, see Stop Ecocide Foundation, 'Independent Expert Panel for the Legal Definition of Ecocide', *Commentary and Core Text*, June 2021, at 5.

11 For a factual and legal analysis of Hama's attacks on 7 October 2023 see, Independent International Commission of Inquiry on the Occupied Palestinian Territory, including East Jerusalem, and Israel, *Detailed findings on attacks carried out on and after 7 October 2023 in Israel*, 10 June 2024, UN Doc. A/HRC/56/CRP.3.

12 On prosecuting environmental harm at the ICC see, generally, M. Gillett, *Prosecuting Environmental Harm before the International Criminal Court*, (Cambridge University Press, Cambridge, 2022) [doi: 10.1017/9781009070027].

13 OTP, Draft Policy on Environmental Crimes Under the Rome Statute, 18 December 2024, par. 12a.

14 For a succinct summary of last year's activities regarding the investigation, see, e.g., United Nations General Assembly (UNGA), Report of the International Criminal Court on its activities in 2023/24, 19

concerned, suffice it to say that on 20 December 2019 the Prosecutor announced the conclusion of the Preliminary Examination, determining that there were grounds to opening an investigation.[15] Investigation which was officially launched on 3 March 2021,[16] while on 20 May 2024 the Prosecutor announced the filing of the application for the aforementioned warrants of arrest. In response, Israel filled in September a challenge to the jurisdiction of the Court pursuant to Article 19(2), and an Article 18(1) notice on the investigation's request. Both were rejected on 21 November 2024, the same day the warrants of arrest were issued.[17]

As above mentioned, the OTP'S Report on Preliminary Examination Activities of 2020 informed of the possible commission by the IDF of the so-called "war crime of excessive incidental death, injury, or damage" according to the Elements of Crimes (EoC hereinafter),[18] provided for in Article 8(2)(b)(iv) RS, which reads as follows:

> Article 8. War Crimes
>
> […]
>
> 2. For the purpose of this Statute, "war crimes" means:
>
> (b) […]:
>
> (iv) Intentionally launching an attack in the knowledge that such attack will cause incidental loss of life or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated.[19]

The charge was ultimately left aside upon the issuance of the warrants of arrest, at least for what concerns to Mr. Netanyahu and Mr. Gallant given that the investigation is ongoing and "[f]urther applications for warrants of arrest [could] be submitted".[20] Moreover, the OTP may request the Pre-Trial Chamber to modify the current warrants by adding other crimes if all requisites are satisfied pursuant to Article 58(6) of the Rome Statute.

Be that as it may, there are several points that need to be considered here. In the first place, the Office stated that there were reasons to believe that the IDF intentionally launched disproportionate attacks in relation to at least three incidents, even though it

August 2024, UN Doc. A/79/198; ICC, OTP, *The law in action for all. Office of The Prosecutor Annual Report 2024*, 4 December 2024.

15 OTP, *supra* n. 3, par. 220.

16 UNGA, *Report of the International Criminal Court on its activities in 2021/22*, 19 August 2022, UN Doc. A/77/305, par. 45.

17 *Situation in the State of Palestine*, 'Decision on Israel's challenge to the jurisdiction of the Court pursuant to article 19(2) of the Rome Statute', 21 November 2024, ICC-01/18-374; *Situation in the State of Palestine*, 'Decision on Israel's request for an order to the Prosecution to give an Article 18(1) notice', 21 November 2024, ICC-01/18-375. Note, however, that Israel appealed Pre-Trial Chamber I's decision on the jurisdictional challenge, which was partially reversed by the Appeals Chamber on 24 April 2025, ordering the Chamber *a quo* to rule on the substance. At the time of writing the final decision on the jurisdictional challenge is still pending.

18 ICC, *Elements of Crimes*, 2013, ICC-PIOS-LT-03-002/15_Eng, at 13.

19 Rome Statute of the International Criminal Court (adopted 17 July 1998, entered into force 1 July 2002), 2187 *UNTS* 3.

20 OTP, *supra* n. 14, at 21.

did not point which.[21] However, we do know that during the Preliminary Examinations, the OTP focused primarily on the events occurred between July and August 2014.[22] Since we could not find any other documented mention to Article 8(2)(b)(iv) between the report of 2020 and the issuance of the warrants of arrest, one could assume that the once alleged disproportionate attacks took place during that period. In a similar vein, the fact that the arrest warrants for both Mr. Netanyahu and Mr. Gallant were applied and issued for alleged crimes only committed from at least 8 October 2023 could explain the differing scope between the former and the Preliminary Examination.

Nevertheless, this fact should not rule out the possible commission of environmental crimes since the escalation of the conflict following Hamas' attack of 7 October 2023. If anything, it could imply that the Office did not have reasonable grounds to consider any of the accused as bearing criminal responsibility for that crime. In other words, a potential war crime against the environment could have been committed from either 2014 or 2023 onwards, although no suspect has been found or publicly identified on this matter. We argue that due precisely to the large-scale, unprecedented environmental destruction of the attacks occurred from October 2023, the threshold of Article 8(2)(b)(iv) RS, second alternative, could have been met.[23]

While the possibility of an indictment for wartime environmental damage in the ongoing ICC investigation on Palestine remains open, was this the case with respect to the issued arrest warrants? To begin with, we must return to the findings set out in the Preliminary Examination. As stated, the OTP did not specify whether the Israeli disproportionate attacks affected civilians, civilian objects, or, alternatively, the natural environment. A clue to an answer pointing to the second alternative is found in the referral of the Situation submitted by South Africa on behalf of itself, Bangladesh, Bolivia, Comoros and Djibouti in November 2023. These States referred to crimes allegedly committed since October 2023, in addition to those allegedly committed on a continuous basis since 2014 as claimed in the referral of the State of Palestine of 15 May 2018. On both cases, the abovementioned provision is mentioned, although the specific destruction of natural resources is described only regarding the events occurred from 2014 onwards, whereas since 2023 they refer to the destruction of objects indispensable for survival.[24]

Having said that, whether the Office is currently investigating the infliction of environmental damage by the Israeli military is eventually irrelevant for the theoretical exercise conducted in this work. What matters is whether the available evidence suggests that a disproportionate attack causing excessive environmental damage has taken place since October 2023, and therefore whether such a charge could have been included in the warrants of arrest or be brought in the future. To further analyse this hypothesis, and

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21 OTP, *supra* n. 3.

22 ICC, OTP, *Report on Preliminary Examination Activities (2019)*, 5 December 2019, par. 223.

23 It is stated that even though the environmental impacts of the 2014 Gaza War were significant, the damage since October 2023 has already been "at least many times worse" only two months into the conflict. See, Qumsiyeh, *supra* n. 6, at 5.

24 South Africa, Bangladesh, Bolivia, Comoros and Djibouti, State Party referral in accordance with Article 14 of the Rome Statute of the International Criminal Court, ICC, 17 November 2023.

the associated challenges, we will dedicate the next pages to assess Article 8(2)(b)(iv)'s elements against both the factual and legal backgrounds.

(B) APPLICABLE LAW. THE WAR CRIME OF EXCESSIVE INCIDENTAL DEATH, INJURY OR DAMAGE

Pursuant to the EoC, the conduct prohibited by Article 8(2)(b)(iv), second alternative, of the Rome Statute consists of the following material elements:

(1) The perpetrator launched an attack.

(2) The attack was such that it would cause incidental widespread, long-term and severe damage to the natural environment, which would be of such an extent as to be clearly excessive in relation to the concrete and direct overall military advantage anticipated.

(3) The perpetrator knew that the attack would cause widespread, long-term and severe damage to the natural environment, and that such damage would be clearly excessive in relation to the concrete and direct overall military advantage anticipated.

(4) The conduct took place in the context of and was associated with an international armed conflict.

(5) The perpetrator was aware of factual circumstances that established the existence of an armed conflict.[25]

It is agreed that Article 8(2)(b)(iv) is constructed combining the humanitarian prohibitions against disproportionate attacks and serious environmental damage found in the 1977 Additional Protocol to the Geneva Conventions of 12 August 1949 relating to the Protection of Victims of International Armed Conflicts (Additional Protocol I),[26] which is problematic from a normative perspective as it will be shown below.[27] Moreover, most of the elements of this crime are either too vague or remain undefined both in the Rome Statute and the EoC, which bears great legal uncertainty. In fact, it has been stated that such obscurity was purposedly sought to limit the scope of the provision.[28] As a consequence, we will turn to other sources of international law, especially IHL, for the purpose of interpretation throughout our assessment, as the ICC may do so under

[25] Elements of Crimes, *supra* n. 18, at 13.

[26] Protocol additional to the Geneva Conventions of 12 August 1949, and relating to the protection of victims of international armed conflicts (adopted 8 June 1977, entered into force 7 December 1978), 1125 *UNTS* 3.

[27] M. Bothe, 'Jurisdiction Ratione Materiare. War Crimes', in A. Cassese, P. Gaeta and J. Jones (eds), *The Rome Statute of the International Criminal Court: A Commentary. Volume I* (Oxford university Press, Oxford, 2002) 379, at 398; K. Ambos, *Treatise on International Criminal Law. Volume II: The Crimes and Sentencing* (Oxford University Press, Oxford, 2014), at 176; R. Arnold and S. Wehrenberg, 'Article 8. Paragraph 2(b)(Iv): Intentionally Launching an Attack in the Knowledge of Its Consequences to Civilians or to the Natural Environment', in O. Triffterer and K. Ambos, *Rome Statute of the International Criminal Court: A Commentary* (C. H. Beck, Hart and Nomos, München, 2016) 375, at 376; G. Werle and F. Jeßberger, *Principles of International Criminal Law* (Oxford University Press, Oxford, 2014), at 492 [doi: 10.1093/law/9780198703594.001.0001].

[28] M. Bassiouni and W. Schabas, *The Legislative History of the International Criminal Court. Second Revised and Expanded Edition* (Brill Nijhoff, Leiden, 2016), at 175.

Article 21(1)(b) RS. As a matter of fact, the Appeals Chamber has held in this regard that "the expression 'the established framework of international law' in the *chapeaux* of article 8(2)(b) […] when read together with article 21 of the Statute, requires the former to be interpreted in a manner that is 'consistent with international law, and international humanitarian law in particular'".[29]

Proof of the highly contentious nature of this provision is that the literature is divided in practically all of its elements. The subsequent sections will thus offer a summarised, yet necessary, discussion of the crime's guilty act (*actus reus*) and guilty mind (*mens rea*) elements.

(1) Contextual elements

Pursuant to the *chapeau* of Article 8(2)(b) RS, and the fourth and fifth elements of Article 8(2)(b)(iv) according to the EoC, the alleged criminal conduct must have taken place in the context of and have been associated with an IAC. Moreover, the alleged perpetrator must be aware of that circumstance. The so-called nexus requirement serves to distinguish between war crimes and other "ordinary" crimes committed through an armed conflict.[30] Aside from the general prerequisite on the existence of an armed conflict, the preamble of Article 8(1) RS contemplates another preliminary element common to all war crimes: the Court shall have jurisdiction over war crimes "in particular when committed as part of a plan or policy or as part of a large-scale commission". Due to space constraints and because of the focus of this work, placed particularly on environmental issues, we need to leave this matter out of our scope except for a couple of notes.

Mirroring previous jurisprudence from other international tribunals, in *Katanga* the ICC held that "an armed conflict exists whenever there is a resort to armed force between States or protracted armed violence between governmental authorities and organized armed groups or between such groups within a State".[31] Its international nature will depend on whether "it takes place between two or more States, [which] extends to the partial or total occupation of the territory of another State, whether or not the said occupation meets with armed resistance".[32] Given that the nature of the hostilities and whether they take place in an occupied territory must be determined on a case-by-case basis, we defer to the Court's future pronouncements.[33] Specially acknowledging the delicate issue of Palestine statehood for the present proceedings, where Israel's challenge to the jurisdiction of the Court is based precisely on its claim that Palestine is not a State.[34] It would be nonetheless convenient to recall that the status of Israel

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29 *Prosecutor v. Bosco Ntaganda*, 'Judgement on the appeals of Mr. Bosco Ntaganda and the Prosecutor against the decision of the Trial Chamber VI of 8 July 2019 entitled "Judgement"', 30 March 2021, ICC-01/04-02/06 A A2, par. 548.

30 A. Cassese, 'The Nexus Requirement for War Crimes', 10 *Journal of International Criminal Justice* (2012), 1395-1417, at 1395 [doi: 10.1093/jicj/mqs082].

31 *Prosecutor v. Germain Katanga*, 'Judgment pursuant to article 74 of the Statute', 7 March 2014, ICC-01/04-01/07, par. 1173.

32 *Ibid*., par. 1177.

33 *Ibid*., paras. 1181-1182.

34 See, 'Decision on Israel's challenge to the jurisdiction…', supra n.17, paras. 11-14. As noted by the Court, the recognition of Palestine as State Party applies only within the framework of the Rome Statute and does not affect the international law rules on statehood. *Situation in the State of Palestine*, "Decision on

as occupying Power regardless of its prolonged duration is not a matter of major debate, as reaffirmed recently by the ICJ.[35] Therefore, it would appear that the conditions for the existence of an IAC are a priori met, at least under the scenario of occupation.[36]

As to the "plan or policy" element, some commentators note that this clause was introduced to ensure that prosecution is limited to the most egregious cases.[37] However, the Court has inferred from the term "in particular" that these circumstances ought not to be regarded as prerequisites excluding jurisdiction.[38] Be that as it may, as possible proof, the OTP argued in *Al Bashir* that the "scale of destruction of civilian property, including objects indispensable for the survival of the civilian population, suggests that the damage was a deliberate and integral part of a military strategy".[39] Following the evidence that will be presented below, the same argument could be used regarding the conflict in Gaza to satisfy this threshold, whether applicable.

(2) Material elements

(a) Launching an attack

Although the ins and outs of an attack are not provided either in the Rome Statute or the EoC, beyond being of such extent as to meet the threshold of damage it is understood that the term does not differ from the criteria used for Article 8(2)(b)(i) and (ii) RS, i.e., as defined in Article 49(1) of Additional Protocol I.[40] Under this provision, which ICC Trial Chamber II first adhered to in *Katanga*,[41] "'attacks' means acts of violence against the adversary, whether in offence or in defence", which according to the *Commentary on the Additional Protocols* (the *Commentary*) of 1987 means combat action.[42] It refers, the *Commentary* goes on, "simply to the use of armed force to carry out a military operation at the beginning or during the course of armed conflict".[43] This means that every attack

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the 'Prosecution request pursuant to article 19(3) for a ruling on the Court's territorial jurisdiction in Palestine'", 5 February 2021, ICC-01/18-143, par. 108.

35 *Legal Consequences arising from the Policies and Practices of Israel in the Occupied Palestinian Territory, including East Jerusalem*, 'Advisory Opinion', ICJ (2024), paras. 104-110. See, previously, Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, 'Advisory Opinion', ICJ Reports (2004), par. 78.

36 See cautions in van Steenberghe, *supra* n. 2, 996-997.

37 A. Cassese et al., *Cassese's International Criminal Law* (Oxford University Press, Oxford, 2013), at 80 [doi: 10.1093/he/9780199694921.001.0001]; M. Wagner, 'The ICC and Its Jurisdiction. Myths, Misperceptions and Realities', 7 *Max Planck Yearbook of United Nations Law* (2003), 409-512, at 455 [doi:10.1163/138946303775160313].

38 *Prosecutor v. Germain Katanga*, *supra* n. 31, par. 86.

39 *Situation in Darfur, The Sudan*, 'Public Redacted Version of the Prosecutor's Application under Article 58', 14 July 2008, ICC-02/05-157-AnxA, par. 404.

40 Werle and Jeßberger, *supra* n. 27, at 493; Dörmann, *Elements of War Crimes under the Rome Statute of the International Criminal Court: Sources and Commentary* (Cambridge University Press, Cambridge, 2003), at 169.

41 *Prosecutor v. Germain Katanga*, *supra* n. 31, par. 798. This approach was unsuccessfully challenged before the Appeals Chamber in *Ntaganda*. See, *Prosecutor v. Bosco Ntaganda*, *supra* n. 29, paras. 1164-1168.

42 Pilloud et al., *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (ICRC and Martinus Nijhoff, Geneva, 1987), par. 1880.

43 *Ibid*., par. 1882. In turn, a military operation is thought to mean all the movements and activities related to hostilities, which are defined as acts of war that strike the enemy armed forces by any methods and means of warfare. See, Pilloud et al., *supra* n. 42, par. 1936; M. N. Schmitt, 'International Humanitarian Law and the Conduct of Hostilities', in B. Saul and D. Akande (eds), *The Oxford Guide to International Humanitarian Law* (Oxford University Press, Oxford, 2020) 147.

will normally be part of a broader military operation,[44] although there could be instances where the former consisted of a single attack, thus equating both terms in a narrow sense.[45] Ultimately, as remarked in the *Ntaganda* trial, the key point is that the attack, i.e. the use of armed force by any of the parties against the other, must take place "during the actual conduct of hostilities".[46]

That being said, the main issue with "attack" under Article 8(2)(b)(iv) relates, as far as we are concerned, to the number of acts of violence involved. According to the EoC, this offence, together with all the other attack-related or "conduct of hostilities" war crimes, and disregarding whether the wording of the Rome Statute speaks of "attacks" or "attacking", is committed by launching or directing a single attack.[47] This is not of concern regarding crimes such as attacking civilians or civilian objects given that the extent of the damage thereof is immaterial, and the offence is defined by the intent in targeting.[48] Conversely, Article 8(2)(b)(iv) only takes effect if the required damage is actually expected.[49] That is to say, it seems to indicate that one specific attack must be capable of causing such a destructive outcome.

The use of the singular "attack" must not be understood as consisting only of an isolated action such as a single bombardment, for an attack may be comprised of different parts or events.[50] However, the attack must be circumscribed to a certain time and space.[51] This apparently limits the scope of an attack to a specific operation in the narrow sense. Therefore, it may be argued that the singular "attack" of Article 8(2)(b)(iv) does not conflate the different attacks comprising the military operation as a whole.[52] This conclusion is highly problematic for two reasons: (1) only an attack on a massive scale could reach the prohibited threshold; (2) it appears to reject the possibility of accounting for the cumulative effect of multiple attacks in order to meet such a threshold, which is troublesome given the often cumulative and uncertain nature of environmental harm in general and in relation to hostilities.[53] Not in vain, the International Committee of the Red Cross (ICRC)

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44 Association for the Promotion of International Humanitarian Law, 'Observations by ALMA Association for the Promotion of IHL in the Case of The Prosecutor v. Bosco Ntaganda', in *Prosecutor v. Bosco Ntaganda*, 18 September 2020, ICC-01/04-02/06-2587 A2, par. 7; S. Oeter, 'Methods and Means of Combat' in D. Fleck (ed), *The Handbook of International Humanitarian Law* (Oxford University Press, Oxford, 2008) 119, at 185-186.

45 Or the "specific military operation which constitutes the attack". See Oeter, *ibid*.

46 *Prosecutor v. Bosco Ntaganda*, 'Judgement', 8 July 2019, ICC-01/04-02/06, par. 1142.

47 K. Dörmann, 'War Crimes under the Rome Statute of the International Criminal Court, with a Special Focus on the Negotiations on the Elements of Crimes', 7 *Max Planck Yearbook of United Nations Law* (2003) 341-407, at 380 ff [doi: 10.1017/CBO9780511495144].

48 Werle and Jeßberger, *supra* n. 27, at 491-492.

49 *Ibid*.; Peterson, "The Natural Environment in Times of Armed Conflict: A Concern for International War Crimes Law?", 22 *Leiden Journal of International Law* (2009) 325-343, at 336 [doi: 10.1017/S0922156509005846].

50 Oeter, *supra* n. 44.

51 Peterson, *supra* n. 49.

52 This would invalidate Gillett's view whereby the different strikes comprising Operation Ranch Hand during the Vietnam War would be "an attack" in this sense, for it would overstretch both the time and space limits of the term. See, M. Gillett, "Environmental Damage and International Criminal Law", in S. Jodin and M. Cordonier Segger (eds), *Sustainable Development, International Criminal Justice, and Treaty Implementation* (Cambridge University Press, New York, 2013) 73, at 78 [doi: 10.1017/CBO9781139507561.008].

53 R. White, 'Global Harms and the Natural Environment', in P. Davies, P. Leighton and T. Wyatt (eds), *The Palgrave Handbook of Social Harm* (Palgrave Macmillan, Cham, 2021) 89, at 95 [doi: 10.1007/978-3-030-72408-5_5]; M. Bothe et al., 'International Law Protecting the Environment during Armed Conflict: Gaps

recommends to consider both individual and cumulative effects for the assessment of instances of widespread, long-term and severe environmental damage.[54]

The thorny issue of the cumulative effects was already dealt with at the International Criminal Tribunal for the former Yugoslavia (ICTY). On the one hand, in *Kupreškić* the Trial Chamber argued that, making use of the Martens Clause, a violation of the rule of proportionality could still be found considering the cumulative effects of multiple attacks in cases where the incidental damage of a single attack did not appear to be unlawful per se.[55] On the other hand, the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia (ICTY Committee) was of the more reluctant opinion that "the mere cumulation of [individual attacks], all of which are deemed to have been lawful, cannot *ipso facto* be said to amount to a crime.[56]

(b) Incidental (or Collateral), and Excessive. The Problem with Proportionality

The wording of both the Rome Statute and the EoC concerning Article 8(2)(b)(iv) is plain in illustrating that the damage must be a consequence of the attack launched. However, does that mean that the attack must intentionally target any element of the natural environment? This is one of the most confusing elements of the crime among the literature. Whereas some authors appear to attach the *incidentality* of the result only to the first alternative, i.e. loss of or injury to civilians, for others it applies to the environment as well.[57] Yet others speak of intentional rather than incidental harm to the environment.[58]

According to the general principles of IHL, the environment, as a civilian object, is to be safeguarded against both direct attacks and excessive collateral damage, relative to military advantage.[59] Article 8(2)(b)(iv) RS focuses on the latter scenario, embracing the principle of proportionality.[60] Pursuant to Article 57(2)(a)(iii) and (b) of Additional Protocol I, this rule compels a military commander to refrain from launching an attack

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and Opportunities' 92, no. 879 (2010, 92 *International Review of the Red Cross* (2010) 569-592, at 577 [doi: 10.1017/S1816383110000597].

54 ICRC, *Guidelines on the Protection of the Natural Environment in Armed Conflict. Rules and Recommendations relating to the Protection of the Natural Environment under International Humanitarian Law, with Commentaries* (2020), par. 54.

55 *Prosecutor v. Kupreškić et al.*, Judgement, 14 January 2000, IT-95-16, paras. 525-526.

56 ICTY Committee, *Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia*, 13 June 2000, par. 52.

57 On the former, Freeland, *supra* n. 9, at 205. On the latter, Werle and Jeßberger, *supra* n. 27, at 493; Arnold and Wehrenberg, *supra* n. 27, at 376.

58 M. A. Drumbl, 'International Human Rights, International Humanitarian Law, And Environmental Security: Can The International Criminal Court Bridge The Gaps?', 6 *ILSA Journal of International and Comparative Law* (2000) 305-341, at 312.

59 C. Droege and M.L. Tougas, 'The Protection of the Natural Environment in Armed Conflict Existing Rules and Need for Further Legal Protection', 82 *Nordic Journal of International Law* (2013) 21 52, at 27 [doi: 10.1163/15718107-08201003].

60 Indeed, footnote 36 of the EoC to this provision makes clear that "it reflects the proportionality requirement", which was confirmed by ICC Pre-Trial Chamber I in *Prosecutor v. Germain Katanga and Mathieu Ngudjolo Chui*, 'Decision on the Confirmation of Charges', 30 September 2008, ICC-01/04-01/07, par. 274, footnote 374.

or cancel it on a legitimate target where it is expected to cause excessive collateral damage. That is to say, the acts covered by the principle of proportionality refer to attacks launched to destroy or damage a military objective, while harm to civilians or civilian objects or the natural environment is considered a secondary consequence.[61] Otherwise such an attack would first violate the principle of distinction, rendering proportionality inoperative and thus constituting a different crime.[62] As the ICC ruled in *Katanga*, attacks against military objectives incidentally affecting civilians are lawful so long as the damage is not "so great that it appears […] that the perpetrator meant to target civilian objectives".[63]

The foregoing should suffice to solve this conundrum given that, following the proportionality principle, the alternatives gathered under the scope of Article 8(2)(b)(iv) RS loss of life, injuries, and damage either to civilian objects or the environment are all different effects bounded by *incidentality*.[64] Applying excessiveness while leaving *incidentality* aside would make no sense under the proportionality rule. Moreover, the use of no commas in that provision between the term "incidental" and all the subsequent alternative results supports this idea of unity.[65] That notwithstanding, the seemingly different use of the terms "incidental" and "collateral" may lead to confusion. Indeed, the wording of the Rome Statute speaks only of "incidental", while footnote 36 of the EoC refers to "incidental injury and collateral damage." Likewise, a working paper submitted by the United States at the Rome Conference, appears to indicate that "incidental" is reserved for injuries and casualties while collateral for damage.[66] However, the same document explained that collateral damage includes "incidental injury or additional damage that was not intended"; therefore, it may be stated that the use of "incidental" should not make any difference regarding the unintentionality of the damage.[67] Thence, intentionality is what distinguishes incidental or "unavoidable damage" from deliberate damage, drawing the line between purely indiscriminate and disproportionate attacks.[68]

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61 See, generally, F. Moneta, 'Disproportionate Attacks in International Criminal Law," in P. Ambach et al. (eds), *The Protection of Non-Combatants During Armed Conflict and Safegurading the Rights of Victims in Post-Conflict Society: Essays in Honour of the Life and Work of Joakim Dungel* (Martinus Nijhoff, Leiden, 2015), 261; L. Gisel, '*The Principle of Proportionality in the Rules Governing the Conduct of Hostilities under International Humanitarian Law*' (ICRC, Quebec, 2016); L. Daniele, 'Incidentality of the Civilian Harm in International Humanitarian Law and Its Contra Legem Antonyms in Recent Discourses on the Laws of War', 29 *Journal of Conflict and Security Law* (2024) 21 54 [doi: 10.1093/jcsl/kraeo04].

62 Daniele, *ibid.*, at 27; Pilloud et al., *supra* n. 42, par. 2207. This is precisely what occurred in the cases adjudicated by the ICTY dealing with proportionality, where it was concluded that most of the attacks involving civilian casualties were either directed at them or against civilian objects and, thus, did not fall under the scope of disproportionate attacks. See, e.g., Moneta, *ibid*; R. Bartels, 'Dealing with the Principle of Proportionality in Armed Conflict in Retrospect: The Application of the Principle in International Criminal Trials,' 46 *Israel Law Review* (2013) 271 315 [doi: 10.1017/S0021223713000083].

63 *Prosecutor v. Germain Katanga*, *supra* n. 31, par. 802.

64 Pilloud et al., *supra* n. 42, paras. 2212-2213.

65 Following the general rule of interpretation pursuant to Art. 31(1) of the Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 *UNTS* 331 (Vienna Convention hereinafter), the ordinary meaning of a comma is to indicate a separation.

66 'United States of America: Proposal regarding an annex on definitional elements for part 2 crimes', UN Doc. A/CONF.183/C.1/L.10, in UN Diplomatic Conference, *supra* n. 9, at 235-236, par. 12.

67 *Ibid*., 232, § C, ¶ 1(c).

68 See, Daniele, *supra* n. 61; A. Sari, 'Indiscriminate Attacks and the Proportionality Rule: What Is Incidental Civilian Harm?', 30 *Journal of Conflict and Security Law* (2025) 203-239 [doi: 10.1093/jcsl/kraf010]. Cf.,

Accordingly, that the criminal conduct of Article 8(2)(b)(iv) only covers the environmental damage derived from attacking a legitimate target should not be controversial.[69]. Regrettably, elements of the natural environment, or related to, usually become military easily.[70] That is, those objects which "make an effective contribution to military action and whose total or partial destruction, capture or neutralisation, in the circumstances ruling at the time, offers a definite military advantage", pursuant to Article 52(2) of Additional Protocol I. Nevertheless, where an element of the natural environment is lawfully attacked for being deemed as military, "there [still] may be long-term environmental damage beyond the actual destruction [sought]"; secondary harm which would thus enter our analysis, as long as there was no intentionality in it.[71]

This leads us to the requirement of excessiveness, which is to be assessed precisely against the anticipated military advantage offered by the attack. The balancing process or value judgement performed through such an assessment, known as the proportionality test, is seen as the decisive criterion for attributing criminal liability pursuant to Article 8(2)(b)(iv) RS, provided the remaining elements are met.[72] While, at the same time, it is the "vaguest and most difficult to apply rule" regarding the lawfulness of an attack.[73] In principle, regarding crimes involving value judgments such as the one at hand, it is not generally necessary that the accused personally completed such an evaluation correctly to be held criminally responsible, unless otherwise indicated.[74] Unfortunately, this is what Article 8(2)(b)(iv) expressly does.[75]

The first issue with the proportionality test is that tries to weight values that are inherently incomparable, for which there are no objective standards: military and humanitarian or environmental elements.[76] The second refers to the notion of excessiveness itself, for which there is not an agreed definition and ultimately depends on the subjective, context-related expectations of the military decision-maker, based on the information available at the time and the specific circumstances of the case.[77] Subjectivity which is

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Drumbl, *supra* n. 58, at 16, who argues that as long as the military advantage outweighs the environmental harm, even if intentional, the attack would be lawful.

69 See, e.g., Dörmann, *supra* n. 40, at *163*; K. Hulme, *War Torn Environment: Intepreting the Legal Threshold* (Martinus Nijhoff, Leiden, 2004), at 77; Peterson, *supra* n. 49, at 327; Werle and Jeßberger, *supra* n. 27, at 491; Gillett, *supra* n. 12, at 78. The last three, however, construe the offence as *not necessarily* requiring the environment to be the direct target of the attack, which is somewhat confusing.

70 Bothe et al., *supra* n. 53, at 576. For instance, a forest used to cover the enemy military.

71 S. Bagheri, 'The Legal Limits to the Destruction of Natural Resources in Non-International Armed Conflicts: Applying International Humanitarian Law', 105 *International Review of the Red Cross* (2023) 882 913,at 889 [doi: 10.1017/S1816383123000139].

72 Ambos, *supra* n. 27, at 177.

73 Schmitt, *supra* n. 43, at 153. On the vagueness of proportionality see also, B. Clarke, 'Proportionality in Armed Conflicts: A Principle in Need of Clarification?', 3 *Journal of International Humanitarian Legal Studies* (2012) 73 123 [doi: 10.1163/18781527-00301003].

74 Elements of Crimes, *supra* n. 18, at 1, par. 4.

75 *Ibid*., at 13, footnote 37. Although during the negotiation of the EoC, there were delegations claiming that the alleged perpetrator needed only to anticipate the extent of the damage and the military advantage, whereas the possible excessiveness ought to be determined by the Court. See, Dörmann, *supra* n. 40, at 164.

76 Bothe, *supra* n. 27, at 398; M. N. Schmitt, 'War and the Environment: Fault Lines in the Prescriptive Landscape', 37 *Archiv des Völkerrechts* (1999) 25-67, at 48; Oeter, *supra* n. 44, at 205.

77 See, Gisel, *supra* n. 61, at 52 *ff*.; Y. Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict* (Cambridge University Press, Cambridge 2004), at 121-122 [doi: 10.1017/CBO9781316389591]; Schmitt,

magnified in cases of environmental damage due to its often-intangible nature.[78] This is explained because IHL accepts that a certain degree of incidental or collateral damage is inevitable, and would not violate the principle of distinction per se as long as justified by military necessity. In other words, the assessment of proportionality "incorporates a margin of appreciation in favour of military commanders".[79] The addition of the qualifier "clearly" to the requirement of excessiveness in Article 8(2)(b)(iv) further changes the already delicate balance of interests in favour of military considerations.[80] In this regard, the report of the ICTY Committee (ICTY Report hereinafter) was of the opinion that "the word 'clearly' ensures that criminal responsibility would be entailed only in cases where the excessiveness of the incidental damage was obvious".[81] Some voices point that only extremely unconventional methods or means of warfare, such as nuclear weapons, would fall under this clause.[82]

As to the military advantage, pursuant to Article 57(2)(a)(iii) of Additional Protocol I the *Commentary* states that "can only consist in ground gained and in annihilating or weakening the enemy armed forces".[83] Commentators agree that whereas the adjective "overall" inserted in Article 8(2)(b)(iv) RS broadened the scope to accounting for goals which go beyond an attack considered in isolation, bearing in mind the whole military operation, "direct" was meant to avoid relying on indeterminate or vague advantages.[84] Notwithstanding that the EoC explain that such advantage may or may not be temporally or geographically related to the attack,[85] it is understood that ex post justifications are excluded, i.e. advantages not foreseen and only evident in the aftermath of the operation.[86] This is well represented in the ICC case-law, where the Court has held repeatedly that "such an advantage must be definite and cannot in any way be indeterminate or potential".[87] In the absence of a more detailed definition, the *Commentary* explains that

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supra n. 43, at 153-155; H.P. Gasser, 'Protection of the Civilian Population', in D. Fleck (ed) *supra* n. 44, 237, at 249-250.

78 Freeland, *supra* n. 9, at 158.

79 Clarke, *supra* n. 73, at 78. See, also, Moneta, *supra n. 61*, at 264-265; Gisel, *supra* n. 61, at 8.

80 Ambos, *supra* n. 27, at 176. Although Dinstein argues that the very notion of excessiveness implies to be "clearly" discernible. See, *supra* n. 77, at 120-122. On the opposite, the prohibition to cause widespread, long-term and severe damage to the natural environmental provided for in Article 55(1) of Additional Protocol I is absolute, not requiring to be excessive.

81 ICTY Committee, *supra* n. 56, par. 21.

82 T. Smith, 'Creating a Framework for the Prosecution of Environmental Crimes in International Criminal Law', in N. Hayes, Y. McDermott, and W. A. Schabas (eds), *The Ashgate Research Companion to International Criminal Law: Critical Perspectives* (Routledge, London, 2013), 41, at 51, citing Hulme. Although still debated, the applicability of the prohibition against excessive environmental damage to nuclear weapons remains controversial inasmuch they were apparently left aside of both Additional Protocol I and the Rome Statute. See, generally, G. Nystuen, S. Casey-Maslen, and A. G. Bersagel (eds), *Nuclear Weapons under International Law* (Cambridge University Press, Cambridge, 2014) [doi: 10.1017/CBO9781107337435].

83 Pilloud et al., *supra* n. 42, par. 2218. For a wider interpretation see Gisel, *supra* n. 61, at 11, who speaks of any consequence directly enhancing friendly military operations or hindering the enemy's.

84 Dörmann, *supra* n. 40, at 163; Bothe, *supra* n. 27, at 399; Arnold and Wehrenberg, *supra* n. 27, at 377-378.

85 Elements of Crimes, *supra* n. 18, at 13, footnote 36. This is contrary to the general understanding as provided in the *Commentary on the Additional Protocols*, where the military advantage must be relatively close. See Pilloud et al., *supra* n. 42, par. 2209.

86 Arnold and Wehrenberg, *supra* n. 27, 377.

87 *Prosecutor v. Germain Katanga*, *supra* n. 31, par. 893; *Prosecutor v. Bosco Ntaganda*, *supra* n. 46, par. 1162, footnote 3182.

it must be substantial and discards those that are "hardly perceptible and those which appear only in the long term".[88] In this sense, the ICTY Report noted that "attacks which are known or can reasonably be assumed to cause grave environmental harm may need to confer a *very substantial* military advantage in order to be considered legitimate".[89]

Taking into account only the damage caused after a specific attack while in turn subjectively assessing the advantage offered by it in light of the broader operation means, as Laursen put it, "dilut[ing] the significance of a single attack by pouring it into a sea of integrated attacks".[90] Here we face two issues: (1) the difficulty of determining the specific attack that caused the damage to the environment; and (2) the above-mentioned improbability of a single attack causing such a damage, in addition to be clearly excessive. Following the *obiter dictum* found in *Kupreškić*, it is argued that the Martens Clause could offer a possible solution to this cases where the unlawfulness of serious incidental damage to the environment is not readily apparent.[91] In a similar vein, Koppe defends the existence of a fifth fundamental principle of IHL reflecting the duty to protect the environment, similar but separated to that of humanity. The so-called "principle of ambituity [sic]" provides for an absolute limitation of the necessities of war in relation to the environment, which could be used to interpret existing conventional rules the obligations of which are unclear, such as Article 8(2)(b)(iv) RS.[92]

(c) Causation of Damage to the Natural Environment

The question we address here is whether the crime requires the actual causation of damage, i.e. a particular result. To address this issue, we must first clarify what ought to be understood as "natural environment" and "environmental damage". Despite the absence of a definition for "natural environment" in the Rome Statute, recourse may be used, for instance, to either the commentary of Article 26 of the International Law Commission's (ILC) Draft Code of Crimes against the Peace and Security of Mankind of 1991 or of Article 55 of Additional Protocol I, given their proximity to our subject matter. Even though both definitions resemble each other, resort to the latter may prove more accurate considering that the former was eventually dropped, and that Article 8(2)(b)(iv) RS is largely borrowed from Additional Protocol I.[93] Importantly, both definitions

88 Pilloud et al., *supra* n. 42, par. 2209.

89 ICTY Committee, *supra* n. 56, par. 22, emphasis added.

90 As cited in Freeland, *supra* n. 9, at 157.

91 *Prosecutor v. Kupreškić et al.*, *supra* n. 55; D. Fleck, 'The Martens Clause and Environmental Protection in Relation to Armed Conflict', 10 *Goettingen Journal of International Law* (2020) 243 266 [doi: 10.3249/1868-1581-10-1-fleck]. See also, ILC, *Draft Principles on the Protection of the Environment in relation to Armed Conflict, with Commentaries*, 2022, UN Doc. A/77/10, where, albeit concerned with State responsibility, Principle 12 recognises the application of the Martens Clause in this context as well.

92 See E.V. Koppe, 'The Principle of Ambituity and the Prohibition against Excessive Collateral Damage to the Environment during Armed Conflict', 82 *Nordic Journal of International Law* (2013) 53 82, at 59-67 [doi: 10.1163/15718107-08201004].

93 This is of relevance for, as noted by the OTP in its new Draft Policy, the term natural environment should be understood "in line with the meaning States have given it in the context of IHL". See, OTP, *supra* n. 13, par. 22. Similarly, the aforementioned ILC's Draft Principles refer to the environment "in line with the established terminology of international environmental law". See *supra* n. 91, par. 5 at 136. However, instances where the ICJ has dealt with environmental damage arising from armed conflict offer little

agree on that the natural environment ought to be understood here in the widest sense possible: as "to cover the environment of the human race and where the human race develops" in the first case, and "to cover the biological environment in which a population is living" in the second.[94]

Under Article 55 of Additional Protocol I the natural environment is meant to encompass not only those objects indispensable to civilian survival related to natural resources mentioned in Article 54(2), i.e. belonging to the human environment, but also "forests and other vegetation […], as well as fauna, flora and other biological or climatic elements".[95] Indeed, during the negotiating process of the Protocol, the Biotope Group explained that the concept "natural environment" is wider than "human environment", the latter being part of the former.[96] Such indispensable environmental objects mainly consist of everything that is not man-made but "may be the product of human intervention", like agricultural areas or drinking water as mentioned in the *Commentary*.[97] Therefore, collateral damage to these objects could qualify as harm to the environment in this broad sense. Alternatively, the targeting of such environmental objects or infrastructure,[98] could still indirectly damage other elements of the natural environment in the narrow sense (land, forests, seas…) as happened with the burning of oil wells in the 1991 Gulf War.[99] As a matter of fact, the weaponisation of this environmental infrastructure, especially water supplies, is not just a means of warfare that affects both civilians and the environment, but a strategy of domination not unknown to the Palestinian people.[100]

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guidance in this respect. See, e.g., *Legality of the Threat or Use of Nuclear Weapons*, 'Advisory Opinion' ICJ Reports (1996); or *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda)*, 'Judgement', ICJ Reports (2005) and its subsequent judgment on reparations of 2022.

94 'Report of the Commission to the General Assembly on the Work of its Forty-Third Session', 2 ILC Yearbook 1991, 1994, UN Doc. A/CN.4/SER.A/1991/Add.1 (Part 2), at 107, par. 4; Pilloud et al., *supra* n. 42, par. 2126. Likewise, the OTP has defined the natural environment as encompassing "the earth's biosphere, cryosphere, lithosphere, hydrosphere, and atmosphere, including outer space […], upon scientific recognition of the interactions that make up the environment". See *supra* n. 13, par. 21.

95 Pilloud et al., *ibid*.

96 Hulme, *supra* n. 69, at 18. Although other voices argue that the qualifier "natural" was added to factoring out "urbanised or industrial zones". Kiss, as cited in J. Wyatt, 'Law-Making at the Intersection of International Environmental, Humanitarian and Criminal Law: The Issue of Damage to the Environment in International Armed Conflict', 92 *International Review of the Red Cross* 92 (2010) 593 646, at 622 [doi: 10.1017/S1816383110000536].

97 Droege and Tougas, *supra* n. 59, at 25; E. Massingham, E. Almila, and M. Piret, 'War in Cities: Why the Protection of the Natural Environment Matters Even When Fighting in Urban Areas, and What Can Be Done to Ensure Protection', 105 *International Review of the Red Cross* (2023) 1313 1336, at 1315 [doi: 10.1017/S1816383123000395].

98 Note that these indispensable environmental objects will generally not be considered military objectives, and thus protected from direct attack, unless they are of dual use, i.e. used for both military and civilian purposes. See, Dannenbaum and Dill, *supra* n. 2, at 670; Schmitt, *supra* n. 43, at 162.

99 Bagheri, *supra* n. 71, at 889.

100 This strategy has been indeed a recurrent pattern during previous stages of the conflict. See, specially, UN Fact-Finding Mission on the Gaza Conflict, *Human Rights in Palestine and Other Occupied Arab Territories* (Goldstone Report hereinafter), 25 September 2009, UN Doc. A/HRC/12/48, paras. 913-1031; E. Weinthal and J. Sowers, 'Targeting Infrastructure and Livelihoods in the West Bank and Gaza', 95 *International Affairs* (2019) 319 340 [doi: 10.1093/ia/iiz015].

Turning attention to the notion of damage per se, and what potentially harmful actions would be punishable, neither the Rome Statute nor the EoC clarify the concept within Article 8(2)(b)(iv), and the Court has not had the chance to rule on that matter yet. Environmental damage has historically been defined based on human interactions in two distinct ways: namely, it is caused by human interferences, and, at the same time, it comprises the effects on human livelihoods.[101] Generally speaking, it is assumed to mean the "causation of a negative impact on the environment", where both the causes and the consequences may be either direct or indirect.[102] As to IHL, the prevailing rule is that indirect damages, usually known as reverberating effects, are as well included in proportionality assessments of collateral damage.[103] In Additional Protocol I, the environmental problems of the "remnants of war" were specifically thought to be covered by Articles 35(3) and 55(1).[104] Examples of direct and indirect damage are, respectively, the land erosion and cratering from bombardments or the pollution of water supplies through the destruction of, e.g., sanitation infrastructure.[105] Direct environmental harm in this sense may still be incidental or secondary in relation to the primary purpose and target of the attack, therefore actionable pursuant to Article 8(2)(b)(iv) RS.[106] However, not any damage — and thus not any means — will be sufficient to trigger criminal liability at the ICC, but damage that exceeds the legally determined threshold. In this regard, the commentary to the ILC's Draft Principles on the Protection of the Environment in relation to Armed Conflict (Draft Principles) stipulates that this standard of damage should not rely solely on how it was understood in the 1970's as harm to a specific object, but must consider ecological processes such as the interconnectedness of both living and non-living components of an ecosystem.[107]

It is worth noting, however, that during the *travaux préparatoires* of Additional Protocol I it was thought that battlefield damage incidental to conventional warfare such as artillery bombardment, i.e. immediate physical damage, would not normally be covered

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101 Hulme, *supra* n. 69, at 21-40; M. L. Larsson, *The Law of Environmental Damage: Liability and Reparation* (Norsted Juridik and Kluwer Law International, Stockholm and Cambridge, 1999), at 123-126; J Rudall, *Responsibility for Environmental Damage* (Edward Elgar Publishing, Cheltenham, 2024), at 4-5 [doi: 10.4337/9781803920719].

102 Hulme, *supra* n. 69, at 23; E. T. Jensen, 'The International Law of Environmental Warfare: Active and Passive Damage During Armed Conflict', 38 *Vanderbilt Journal of Transnational Law* (2005) 145–185, at 152-154. Simply put it, the OTP has opted for defining environmental damage as "any loss or deterioration of the natural environment", including "the impact on the health and well-being of a particular ecosystem's non-human as well as human inhabitants". See *supra* n. 13, par. 23.

103 Schmitt, *supra* n. 43, at 154. As opposed to it, Freeland argues that these indirect effects are not caused by the attack and should not be accounted for. See, Freeland, *supra* n. 9, at 158. Other authors suggest that indirect or reverberating effects should be more than a mere possibility to be accounted for. See, I. Henderson and K. Reece, "Proportionality under International Humanitarian Law: The 'Reasonable Military Commander' Standard and Reverberating Effects", 51 *Vanderbilt Journal of Transnational Law* (2018) 835–855, at 855.

104 Pilloud et al., *supra* n. 42, paras. 1451 and 1455.

105 Especially illustrative is the diagram showed in Wim Zwijnenburg, 'Data-Driven Environmental Decision-Making and Action in Armed Conflict', *Humanitarian law & Policy*, published on 1 June 2021, accessed 20 March 2025.

106 Gillett, *supra* n. 12, at 103. The author indeed affirms that the analysis of severity within Article 8(2)(b)(iv) encompasses the secondary effects of the attack.

107 Draft Principles, *supra* n. 91, par. 9 at 142.

by Articles 35(3) and 55(1).[108] This must not be read as excluding conventional weapons or tactics from the prohibition but as an acknowledgement of their improbability to reach the threshold of widespread, long-term and severe damage.[109] The same applies to Article 8(2)(b)(iv) RS: provided compliance with the remaining elements, the conventional or unconventional nature of the attack is irrelevant.[110]

Finally, as to material causation: is launching a disproportionate attack a crime of conduct or result? The controversy here stem from the contradictory use of the clause "will cause" and "would cause" in the Rome Statute and the EoC respectively.[111] Following the latter it is agreed by some authors that Article 8(2)(b)(iv) does not contemplate the actual materialisation of the damage to consummate the crime.[112] As a matter of fact, during the negotiations of the EoC it was finally agreed that the crime would be committed once the attack had been launched, even where "due to the failure of the weapon system the *expected* excessive incidental damage did not occur".[113] That is to say, the objective criminal act is fulfilled by launching an attack expecting or knowing its capability to cause such damage. Had the accused foreseen its excessiveness, they would be held criminally responsible even in the absence of actual damage, which is in accordance with the principle of proportionality as defined by the ICTY in *Galić*: "[it] does not refer to the actual damage caused or to the military advantage achieved by an attack, but instead uses the words 'expected' and 'anticipated'."[114]

The no-result rule is indeed generally true for all the attack-related war crimes under the Rome Statute.[115] Drawing from the ICC case-law, the Court's rulings in *Katanga* and *Ntaganda* asserted that intentionally directing attacks against civilians pursuant Article 8(2)(b)(i) does not require actual harm.[116] Similarly, in *Abu Garda* Pre-Trial Chamber I interpreted that the crime of directing attacks against a peacekeeping mission does not require any material result pursuant to Article 8(2)(e)(iii).[117] In fact, in *Katanga*'s confirmation of charges, ICC Pre-Trial Chamber I held that in those attacks launched

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108 Pilloud et al., *supra* n. 42, par. 1454.

109 This is why it has been said that "[it does] not impose any significant limitation on combatants waging conventional warfare". See, C. Thomas, 'Advancing the Legal Protection of the Environment in Relation to Armed Conflict: Protocol I's Threshold of Impermissible Environmental Damage and Alternatives', 82 *Nordic Journal of International Law* (2013) 83–101, at 90 [doi: 10.1163/15718107-08201005].

110 Except for nuclear weapons (see *supra* n. 82), and without prejudice to other crimes based on the prohibition on certain weapons.

111 Bartels, *supra* n. 62, at 300, reflects on this will-would discrepancy.

112 See, e.g., Peterson, *supra* n. 49, at 327; Arnold and Wehrenberg, *supra* n. 27, at 378; Werle and Jeßberger, *supra* n. 27, at 491-492; Gillett, *supra* n. 12, at 99.

113 See, Dörmann, supra n. 40, 162.

114 *Prosecutor v.* Stanislav *Galić*, 'Judgement and Opinion', 5 December 2003, IT-98-29-T, par. 58, footnote 109. However, "expected" was removed from Art. 8(2)(b)(iv) RS for "in the knowledge".

115 Dörmann, *supra* n. 47 *passim*; W. J. Fenrick, 'Crimes in Combat: The Relationship between Crimes Against Humanity and War Crimes', *Guest Lecture Series of the Office of the Prosecutor* (ICC 2004), at 9; G. Corn, 'The Conduct of Hostilities, Attack Effects, and Criminal Accountability', 57 *Israel Law Review* (2024) 354–376, at 361 [doi: 10.1017/S0021223724000050].

116 *Prosecutor v. Germain Katanga*, *supra* n. 31, par. 799; *Prosecutor v. Bosco Ntaganda*, *supra* n. 46, paras. 904 and 1136. Albeit these crimes' primary concern is distinction, whilst Art. 8(2)(b)(iv) is based on proportionality, they all share a common ground: they hinge on attacking decisions taken during the conduct of hostilities. See, Corn, *ibid.*, 356-365.

117 *Prosecutor v. Bahar Idriss Abu Garda*, 'Decision on the Confirmation of Charges', 8 February 2010, ICC-02/05-02/09, par. 65.

at a military target in violation of the proportionality principle, i.e. Article 8(2)(b)(iv), "the attacker [must be] aware that [it] will or *may* cause" the result.[118] Compared against Additional Protocol I, the Rome Statute went a step forward in this regard.[119] In fact, Article 85(3) of the former requires the causation of "death or serious injury to body or health" for any violation of distinction and proportionality to be considered a grave breach, and thus a potential war crime.[120] Moreover, the breach of the provisions against environmental damage was not listed as grave under any circumstances.

(d) Prohibited Threshold

Regardless of whether actual damage occurs, the focal point of the crime is that the alleged perpetrator knew (expected) it would happen. However, Fenrick cautions that "in most cases a charge would not be brought unless there was actual loss".[121] Bearing in mind the OTP's criteria to assess the gravity threshold of Article 17(1)(d) RS, which limits the ICC jurisdiction in terms of admissibility to the most serious crimes, and its evidence-driven approach, any attack not meeting the damage threshold materially would indeed hardly trigger the jurisdiction of the Court.[122] As the OTP remarks in its new Draft Policy, it "will charge violations of article 8(2)(b)(iv) […] when determining whether environmental damage caused by an attack qualifies as 'widespread', 'long-term,' and 'severe'".[123] It is yet to see whether this new focus will encourage the prosecution of such a problematic crime.

The lack of a definition for each of these elements — widespread, long-term and severe — in Article 8(2)(b)(iv) RS, as well as the vagueness in its predecessors of Article 1(1) of the 1976 UN Convention on the Prohibition of Military or Any Other Hostile use of Environmental Modification Techniques (ENMOD Convention),[124] and Articles 35(3)

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118 *Prosecutor v. Germain Katanga and Mathieu Ngudjolo Chui*, *supra* n. 60, emphasis added. Even though the phrasing of the Chamber seems a bit odd, opposing Art. 8(2)(b)(i) RS as a crime of mere action to Art. 8(2)(b)(iv), it should be read as follows: the latter may or may not result in harmful consequences, what it is actually required is awareness about the virtual certain likelihood of such consequences.

119 Bothe, *supra* n. 27, at 398. Although the inclusion of an environmental war crime in the RS may be considered progress in this sense, the overall wording of Art. 8(2)(b)(iv) "clearly constitutes a setback", according to Ambos, *supra* n. 27, at 176.

120 For this reason, the ICTY's finding in *Kordić* that such an attack would be "clearly unlawful even without causing serious harm," subsequently followed in *Gotovina*, was criticised in the latter's appeal. See Moneta, *supra* n. 61, at 278.

121 Fenrick, *supra* n. 115. See also, Moneta, *supra* n. 61, at 285-286. In any event, assessing environmental harm requires that the damage had actually materialised. See, Koppe, *supra* n. 92, at 78.

122 ICC, Regulations of the Office of the Prosecutor, 2009, ICC-BD/05-01-09, Regulation 29. On the gravity threshold see, e.g., M. M. DeGuzman, 'The International Criminal Court's Gravity Jurisprudence at Ten', 12 *Washington University Global Studies Law Review* 12 (2013) 475 486; W. A. Schabas, 'Selecting Situations and Cases', in Carsten Stahn (ed), *The Law and Practice of the International Criminal Court* (Oxford University Press, Oxford, 2015) 365 [doi: 10.1093/law/9780198705161.003.0016]. On the OTP's policy see, e.g., F. Guariglia and E. Rogier, 'The Selection of Situations and Cases by the OTP of the ICC,' in *ibid.*, 350 [doi: 10.1093/law/9780198705161.003.0015].

123 OTP, *supra* n. 13, par. 42.

124 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.

and 55(1) of Additional Protocol I, have been the object of wide scholarly writings.[125] Suffice to note here that, on the one hand, the ENMOD Convention's *Understandings* speak of "several hundred square kilometres"; "a period of months, or approximately a season"; and "serious or significant disruption or harm to human life, natural and economic resources or other assets" for each element respectively.[126] On the other hand, under Additional Protocol I the issue is less straightforward. Regarding the temporal scope, the *Commentary* underscores how some delegations, thinking in ecological terms, considered it should encompass "one or more decades".[127] Instead, the only specific mention to the geographical extension is to "vast stretches of land".[128] Be that as it may, the *travaux préparatoires* made clear that there was consensus on applying a higher standard than of ENMOD's, which would be a minimum.[129] Some commentators even speak of "tens of thousands of square kilometres".[130]

As to severity, the *Commentary* offers poor guidance yet again, except for a few references to the health of ecosystems and civilian population.[131] What the *travaux préparatoires* seem to indicate as a minimum, according to Hulme, is that "severe" involves "changes at the ecosystem level [i.e. affecting its viability] having further repercussions on the health or survival of the human [and non-human] population".[132] Notwithstanding that Additional Protocol I's drafters did not consider incidental damage to ordinary warfare as being severe, unless it were "likely to prejudice, over a long term, the continued survival of the civilian population or would risk causing it major health problems",[133] the Rome Statue provides for its own general standard of gravity in Article 17(1)(d). Although the aim of the rule is to exclude the admissibility of minor cases even where all the elements have been fulfilled,[134] the meaning of gravity therein could be applied to Article 8(2)(b)(iv) *mutatis mutandis*. Accordingly, gravity must be assessed through the lens of both quantitative and qualitative criteria such as, *inter alia*, the extent of the damage, the means employed, the nature and number of victims, or the particular cruelty of the act.[135] Similarly, in *Boškoski*, the ICTY held that the requirement of "large scale" destruction is met when a considerable number of objects are damaged or destroyed, or when the value of a single object is sufficiently great.[136] As seen, these criteria do not differ substantially from the previous. Therefore, in this case, the scale of the damage and the number of victims

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125 To our knowledge, the most deep and comprehensive study on the matter is that of Hulme, *supra* n. 69. See also, Thomas, *supra* n. 109.

126 UNGA 31st session Official Records, 1 *Report of the Conference of the Committee on Disarmament*, 1976, UN Doc. A/31/27, at 91.

127 Pilloud et al., *supra* n. 42, paras.1454 and 1462.

128 *Ibid.*

129 Hulme, *supra* n. 69, 92-93. On the contrary, Antoine posited that "is generally understood that 'widespread' implies an area of less than several hundred square kilometres", i.e., a maximum rather than a minimum. See, P. Antoine, 'International Humanitarian Law and the Protection of the Environment in Time of Armed Conflict', 32 *International Review of the Red Cross* (1992) 517 537, at 526.

130 Wyatt, *supra* n. 96, at 623.

131 Pilloud et al., *supra* n. 42, paras. 1454, 1462 and 2131.

132 Hulme, *supra* n. 69, at 97-98.

133 Pilloud et al., *supra* n. 42, par. 1454.

134 *Prosecutor v. Al Hassan*, "Judgment on the appeal of Mr. Al Hassan against the decision of Pre-Trial Chamber I entitled 'Décision relative à l'exception d'irrecevabilité pour insuffisance de gravité de l'affaire soulevée par la défense'", 7 June 2020, ICC-01/12-01/18-601-Red, par. 53.

135 *Ibid*., par. 89.

136 *Prosecutor v. Ljube Boškoski and Johan Tarčulovski*, 'Judgement', 10 July 2008, IT-04-82-T, par. 352.

would refer to both biotic and abiotic elements of the natural environment per se, and the impacts on humans could serve to magnify the severity of the crime in accordance with the Court's case law.

Acknowledging the need for clearer definitions, back in 2009 UNEP offered a conciliatory proposal as a starting point for new developments, suggesting that the ENMOD Convention's precedent should indeed serve as the minimum basis.[137] Unfortunately, the ILC's Draft Principles have missed the opportunity to offer such a progress yet again.[138] This is a pitiful situation given that the *chapeau* of Article 8(2)(b), coupled with Articles 21 and 22(2) RS, serves to limit the interpretation of the crimes thereof to established law,[139] which could had been clarified in the former. Specially bearing in mind that, in order to prevent progressive interpretations, additional built-in limitations were incorporated in the Rome Statute for offences such as Article 8(2)(b)(iv).[140] The good news is that despite this "attempted corseting of the [judicial] interpretative freedom", the Court's case law has so far proved that the judges are willing to depart from these restraints in case of need.[141] Therefore, in a hypothetical future ruling on the present case, the Court could define the threshold of environmental damage through a broader approach, guided by the Rome Statue's purpose of ending impunity. The former, advocated by Gillett, would allow for a more relaxed, context-related interpretation to ensuring effectiveness: for instance, "widespread" could be defined "according to the size of the territory [where] the damage occurs".[142]

(e) Knowledge of the damage and its excessiveness

As shown before, to comply with the balancing exercise embedded in the proportionally test, a military commander or decision-maker must determine first the extent of the foreseen collateral damage of an attack, to then ascribe it a certain value compared against military interests. As to Article 8(2)(b)(iv), second alternative, the crime is constructed to require the alleged perpetrator to conduct personally such an evaluation and conclude (know) specifically that the environmental damage would be widespread, long-term and severe, and clearly excessive in relation to the direct and overall military advantage anticipated. That is to say, "the awareness of the perpetrator of the consequences of the attack is an objective element of the crime", as the ICC Pre-Trial Chamber confirmed in *Katanga*.[143] Which means that this is not solely a term complementing or specifying the necessary mental state for ascribing criminal responsibility, but a requirement for the

137 M. Mrema, Bruch, and Diamond (UNEP), "Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law", at 5, § 1 recommendation.

138 Draft Principles, *supra* n. 91, at 140.

139 M. Cottier, 'Article 8 Para. 2 Lit b: Other Serious Violations of the Laws and Customs Applicable in International Armed Conflicts. Preliminary Remarks', in O. Triffterer and K. Ambos (eds) *supra* n. 27, 354.

140 Bassiouni and Schabas, *supra* n. 28, at 175.

141 J. Powderly, 'The Rome Statute and the Attempted Corseting of the Interpretative Judicial Function: Reflections on Sources of Law and Interpretative Technique', in Carsten Stahn (ed) *supra* n. 133, 444, at 497.

142 Gillett, *supra* n. 52, 79-80. On the contrary, Peterson argues that due precisely to those differences on the size of States, the criterion should be "absolute rather than relative", see *supra* n.49, at 331.

143 See, *Prosecutor v. Germain Katanga and Mathieu Ngudjolo Chui*, *supra* n. 60.

very commission of the crime. This was somehow recognised in *Ntaganda*, where ICC Trial Chamber VI observed that the causation of incidental damage — albeit speaking of civilian objects — "not *expected* [i.e. not known] to be excessive" would not amount to a war crime.[144]

Consequently, the ex-post assessment by the ICC judges would focus on whether the accused held the required knowledge ex ante, which, following the EoC, would be done through an evaluation of the alleged perpetrator's value judgment, based on the available information to them at the time.[145] It bears noting, however, that while during the drafting of the EoC some delegations supported the former view, also known as the Rendulic Rule or no-second-guessing rule,[146] others claimed that such an evaluation pertained to the alleged perpetrator only, and that the Court should refrain from it.[147] This latter option appears to be the more unlikely, bearing in mind the final agreement reached to nuance the subjectivity of the provision: the perpetrator should not be acquitted where the required evaluation on the excessiveness of the expected damage was either absent or blithely presumed. In particular, "a reckless perpetrator who knows perfectly well the anticipated military advantage and the expected incidental damage or injury, but gives no thought to evaluating the possible excessiveness" should not be exonerated.[148] In the absence of that evaluation, the Court would be entitled to assess the damage itself and the perpetrator would be guilty were the damage found to be excessive, provided the remaining elements are met.[149] Moreover, an unreasonable assessment in cases of clearly excessive damage would not be credible, allowing the Court to infer the accused's knowledge.[150]

Ultimately, both Article 8(2)(b)(iv) RS and the EoC remain silent about the scope of that knowledge. As a means of comparison, Cassese argued that in the particular context of the grave breach provided for in Article 85(3)(b) of Additional Protocol I, from which Article 8(2)(b)(iv) RS is partially borrowed, "knowledge" thereto must be interpreted as "predictability of the likely consequences of the action (recklessness or *dolus eventualis*)".[151] However, this seems to overlook the statement contained in the *Commentary* of 1987 which explicitly ruled out the applicability of recklessness to the grave breach of launching a disproportionate attack.[152] Accepting the previous interpretation would mean deviating from the general mental standard established in Article 30 of the Rome Statute. Consequently, given the substantial overlap between the former and the element of "knowledge" pursuant to Article 8(2)(b)(iv), the specific meaning of the term will be addressed in the subsequent section.

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144 *Prosecutor v. Bosco Ntaganda*, *supra* n. 46, par. 1166. Emphasis added.

145 Elements of Crimes, *supra* n. 18, at 13, footnote 37.

146 On the Rendulic Rule see, generally, B. J. Bill, "The Rendulic 'Rule': Military Necessity, Commander's Knowledge, and Methods of Warfare", 12 *Yearbook of International Humanitarian Law* (2009): 119–155 [doi: 10.1017/S1389135909000051].

147 Dörmann, *supra* n. 40, at 165.

148 *Ibid*. In fact, this rule derives from the requisites of proportionality under IHL, where the attacker must not "simply turn a blind eye on the facts of the situation". See Dinstein, *supra* n. 77, at 122, citing Kalshoven.

149 Dörmann, *supra* n. 40, at 165.

150 *Ibid*.

151 Cassese *et al*., *supra* n. 37, at 76. Also, Bothe, *supra* n. 27, at 400. Koppe also speaks of the "foreseeability of possible damage" regarding Additional Protocol I's prohibition, see *supra* n. 92, at 78.

152 Pilloud et al., *supra* n. 42, par. 3479.

(3) Mental Element

Pursuant to Article 30(1) RS, a person shall be criminally responsible for a crime only if it was committed with intent and knowledge, unless otherwise provided. That is to say, this is the default rule applying in general to every crime under the jurisdiction of the ICC, admitting only specific deviations.[153] Insofar as, for a disproportionate attack to occur such as that covered by Article 8(2)(b)(iv), the attacker must foresee as a possibility a consequence other than the desired one, it would seem plausible that the applicable fault standard for these crimes were *dolus eventualis*. Hence, the question facing here is whether Article 8(2)(b)(iv) provides for a different standard.

Article 30(2) and (3) RS indicates the relevant mental state for each type of material element (i.e. conduct, consequence and circumstance), where paragraph (2) refers to intent, both in relation to conduct and consequence, and paragraph (3) to knowledge regarding a circumstance or a consequence. Certainly, it is not required that every material element be committed with both intent and knowledge, but rather the crime taken as a whole.[154] Thus, is the damage foreseen in Article 8(2)(b)(iv) an intended consequence pursuant to Article 30(2)(b) or a circumstantial one under paragraph (3) thereof? This issue is all the more complex bearing in mind that Article 30(2)(b) equals intent in relation to a consequence with awareness of its occurrence, tantamount to knowledge.[155] As Dörmann documented, whereas the term "intentionally" was removed from the EoC of Article 8(2)(b)(iv) for being a "mere surplusage with no additional meaning", where Article 30(2)(a) would apply automatically, they kept "knowledge" as an element stemming from the statutory definition of the crime.[156] The use of "knowledge", which overlaps with the wording of Article 30(3), therefore seems to explicitly refer to the former.[157] Just as with other attack-related war crimes assessed by the ICC, the necessary causal link between the alleged perpetrator's actions and the resulting intended consequence refers to the attack itself.[158] Here, the damage to the natural environment is circumstantial, a secondary result. There is no purpose but awareness of that harm, which may even not materialise, in the same way that for the similar war crimes of attacking civilians or civilian objects intent only "requires to engage in the attack (purposive intent attached to conduct)".[159] The main difference is that while the

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153 See, generally, D. K. Pigaroff and D. Robinson, 'Article 30. Mental Element', in O. Triffterer and K. Ambos (eds.), *supra* n. 27, 111 1124.

154 *Ibid*., at 1117.

155 Article 30(2)(b) reads as follows: "In relation to a consequence, that person means to cause that consequence or is aware that it will occur in the ordinary course of events." On the confusing wording of Article 30 RS, which overlaps concepts from different legal cultures, see K. Ambos, *Treatise on International Criminal Law : Volume I: Foundations and General Part* (Oxford University Press, Oxford, 2013), at 267-291 [doi: 10.1093/law/9780199657926.001.0001].

156 Dörmann, *supra* n. 40, at 166.

157 Similarly, in *Katanga* the Court observed that the third element of Article 8(2)(e)(i) RS as provided in the EoC, "prescribes a subjective element [which] is, in fact, a repetition of Article 30(2)(a)". See, *Prosecutor v. Germain Katanga*, *supra* n. 31, par. 806. One could argue the same with respect to the third element of Article 8(2)(b)(iv) and Article 30(3).

158 *Prosecutor v. Bahar Idriss Abu Garda*, *supra* n. 117, par. 66, on the war crime of directing attacks against peacekeeping missions.

159 Dannenbaum and Dill, *supra* n. 2, at 663.

latter "hinge on knowledge of the target's status and not the consequences (sought, foreseen or realized)", a disproportionate attack focuses precisely on the awareness of the foreseen consequences, i.e. excessive incidental damage.[160] A priori, a more fitting standard would be indeed that of *dolus eventualis*.

However, this argument may not stand a second reading. First of all, the meaning of "knowledge" in relation to a consequence under Article 30(3) as awareness that it will occur in the ordinary course of events, as opposed to "might occur", apparently excludes the notion of probability embedded in *dolus eventualis*.[161] As a matter of fact, this category, along with recklessness, has been rejected from the Rome Statute's general rule by the ICC case-law so far.[162] On this point, the Court has understood "knowledge" therein as requiring the higher criterion of virtual certainty.[163] In other words, actual knowledge as opposed to constructive knowledge.[164] In this sense, it is also understood that the jurisprudence of the ICTY, despite its confusing reasoning of "knowledge of circumstances giving rise to the expectation of [the result]", set the *mens rea* bar for disproportionate attacks at actual knowledge rather than mere recklessness.[165]

Another alternative is that Article 8(2)(b)(iv) would be providing for a different meaning of "knowledge", effectively modifying the applicable mental element. Albeit, as previously stated, a definition is not provided. In this respect, some authors argue that the general rule applies, i.e. *dolus directus*; whilst others consider that the provision may be indicating either the former or constructive intent (*dolus eventualis*).[166] View, the latter, which was shared in the ICTY Report on the NATO bombing campaign.[167] As a matter of fact, following the Court's own reasoning it is not inconceivable to interpret Article 8(2)(b(iv) this way, given that in *Lubanga* the Appeals Chamber upheld the exclusion of *dolus eventualis* and recklessness from the Rome Statute's standard on the basis of the particular use of the modal verb "will", which implies certainty, in contrast to "may" or "could" which implies possibility.[168] Consequently, the use of "knew that the attack *would*

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160 *Ibid*., at 664.

161 Albeit not without debate. See, e.g., J. D. Van der Vyver, 'The International Criminal Court and the Concept of Mens Rea in International Criminal Law', 12 *University of Miami International and Comparative Law Review* (2004) 57–149; M. E. Badar, 'Dolus Eventualis and the Rome Statute Without It?', 12 *New Criminal Law Review* (2009) 433–467 [doi:10.1525/nclr.2009.12.3.433]; and S. Finnin, 'Mental Elements under Article 30 of the Rome Statute of the International Criminal Court: A Comparative Analysis,' 61 *International and Comparative Law Quarterly* (2012) 325–359 [doi: 10.1017/S0020589312000152].

162 In *Bemba*, Pre-Trial Chamber II, after analysing the *travaux préparatoires* of the Rome Statute, concluded that both concepts were "not meant to be captured by article 30 of the Statute". See, *Prosecutor v. Jean-Pierre Bemba Gombo*, 'Decision Pursuant to Article 61(7)(a) and (b) of the Rome Statute on the Charges of the Prosecutor Against Jean-Pierre Bemba Gombo', 15 June 2009, ICC-01/05-01/08, par. 367. The same view was held by the Appeals Chamber in *Prosecutor v. Thomas Lubanga*, Judgment on the appeal of Mr. Thomas Lubanga Dyilo against his conviction, 1 December 2014, ICC-01/04-01/06 A 5, par. 449.

163 *Prosecutor v. Thomas Lubanga*, *ibid*., par. 447.

164 Finnin, *supra* n. 161, at 350.

165 See, Moneta, *supra* n. 61, at 271-279; J. Dill, "Do Attackers Have a Legal Duty of Care? Limits to the 'Individualization of War'", 11 *International Theory* (2019) 1–25, at 15-19 [doi: 10.1017/S1752971918000222].

166 On the former see, Werle and Jeßberger, *supra* n. 27, at 494; Freeland, *supra* n. 9, at 211. On the latter, Arnold and Wehrenberg, *supra* n. 27, at 380.

167 ICTY Committee, *supra* n. 56, par. 23.

168 *Prosecutor v. Thomas Lubanga*, *supra* n. 162, paras. 447-450.

cause" in the EoC for Article 8(2)(b)(iv) may well allow for the latter interpretation.[169] Drawing a line with other attack-related war crimes within the Rome Statute, in the *Situation of the Republic of Korea* the Prosecutor pleaded that "[a]n argument could be made that a pattern of indifference and recklessness with respect to civilian life and property should eventually satisfy the intent requirements of Articles 30 and 8(2)(b)(i) and (ii)".[170] This could apply to the crime at hand *mutatis mutandis* as well.

A final possibility, perhaps less controversial, would be to interpret that intent is required for the causation of the proscribed damage to the natural environment. In that case, the second alternative of Article 30(2)(b) would apply inasmuch is akin to knowledge, i.e. knowledge-based intent, oblique intent or *dolus directus* of the second degree.[171] Indeed, the ICC has confirmed the inclusion of this type of intent in Article 30 RS, where the cognitive element overrides the volitional element as to require the alleged perpetrator to be aware about the almost inevitable outcome of their acts or omissions.[172] Merely anticipate that possibility would not be enough.[173] Given that in Article 8(2)(b)(iv) the cognitive element appears to outweigh the volitional element as well, in the sense that launching an attack not knowing the causation of the damage would not be criminal, this mental element would be plausibly applicable so long as "knowledge" was understood as "virtual certainty" consistent with the Court case-law.

Be that as it may, the main issue with the *mens rea* is that it is purely subjective.[174] As it has been explained hereinbefore, the elements of this crime encompass a normative aspect, a value judgement which ought not to be personally conducted by the accused. If this were the case the mental element should only relate to the possibility of damage, and excessiveness would be a matter of legal subsumption.[175] Otherwise, scholars generally agree that the mischaracterisation of the damage would constitute a mistake of law.[176] Usually, these mistakes are not a valid ground for excluding criminal responsibility. However, since Article 8(2)(b)(iv) precisely requires that the alleged perpetrator makes the correct value judgement, such an error would negate the mental element and could allow the defence of mistake pursuant to Article 32 RS.[177] That is to say, the alleged perpetrator would be "judge of their own case".[178]

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169 On whether the EoC may introduce deviations to the general rule, see D. K. Pigaroff and D. Robinson, *supra* n. 151, at 1118.

170 ICC, OTP, *Situation in the Republic of Korea: Article 5 Report*, June 2014, par. 65.

171 M. E. Badar, *supra* n. 161, at 439-440.

172 *Prosecutor v. Jean-Pierre Bemba Gombo et al.*, 'Judgment pursuant to Article 74 of the Statute', 19 October 2016, ICC-01/05-01/13, par. 29. See also, *Prosecutor v. Thomas Lubanga Dyilo*, 'Decision on the Confirmation of Charges', 07 February 2007, ICC-01/04-01/06-803, par. 352.

173 G. Werle and F. Jeßberger, '"Unless Otherwise Provided": Article 30 of the ICC Statute and the Mental Element of Crimes under International Criminal Law', 3 *Journal of International Criminal Justice* (2005) 35 55, at 41 [doi:10.1093/jicj/3.1.35].

174 J. C. Lawrence and K. J. Heller, 'The Limits of Article 8(2)(b)(Iv) of the Rome Statute, the First Ecocentric Environmental War Crime', 20 *Georgetown International Environmental Law Review* (2007) 61 95 (1-40), at 78 (20).

175 Bothe, *supra* n. 27, at 400.

176 *Ibid.*; Ambos, *supra* n. 27, at 177; Lawrence and Heller, *supra* n. 174, at 79-80 (21-22).

177 *Ibid.*

178 Bothe, *supra* n. 27, at 400.

(a) Proof of knowledge

Considering the difficulties often arising in a war crimes context to demonstrate the alleged perpetrator's awareness of certain circumstances, some remarks in this respect are worthwhile.[179] On the one hand, the Court could rely on an ex-post analysis of the damage as an indicator of knowledge, given that "proof of loss is usually very helpful in proving the mental element".[180] While an account of the damage would be direct evidence of the attack's capacity to cause it (second element of the offence as per the EoC), it would be of an indirect nature (indicia or circumstantial evidence) regarding the accused's *mens rea*. Indeed, if "knowledge" means awareness that a consequence will occur in the ordinary course of events pursuant to Article 30(3) RS, where such a result has occurred as a necessary consequence of the attack(s) it could be inferred that the alleged perpetrator knew it. However, notwithstanding that the ICC generally admits this type of evidence, relying on it alone would not reach the standard of beyond reasonable doubt set in Article 66 RS unless it were the "only reasonable finding to be made" from that fact.[181] A possibility in that regard would be an attack that "could not cause anything but 'widespread, long-term and severe' damage to the environment", such as using a nuclear weapon or an equivalent on scale.[182]

On the other hand, it has been mentioned above that during the negotiations of the EoC it was understood that an unreasonable value judgement conducted by a reckless military commander would not be credible, allowing the Court to infer their knowledge. That is to say, the criminal act prohibited by Article 8(2)(b)(iv) RS apparently encloses a degree of reasonable anticipation, meaning that a "commander who launches an attack based on a reasonable assessment that it *will not* result in clearly excessive [damage] has not violated this proscription".[183] For instance, in *Gotovina* the ICTY ruled that the disproportion of the attack under consideration was proven in view of the "little or no regard" paid to the risk of civilians casualties and damage to civilian objects by the Croatian Army.[184] In support of this view, the ICTY Report had priorly suggested that, concerning proportionality, "the determination of relative values must be that of the reasonable military commander".[185] Likewise, in *Galić* the ICTY upheld that

> [i]n determining whether an attack was proportionate it is necessary to examine whether a reasonably well-informed person in the circumstances of the actual

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179 See, e.g., S. Wilkinson, 'The Challenges of Establishing the Facts in Relation to "Hague Law" Violations', in F. Pocar, M. Pedrazzi and M. Frulli (eds.), *War Crimes and the Conduct of Hostilities. Challenges to Adjudication and Investigation*, ed. (Edward Elgar, Cheltenham, 2013), 313–330.

180 Fenrick, *supra* n. 115.

181 *Prosecutor v. Germain Katanga*, *supra* n. 31, par. 109; *Prosecutor v. Bosco Ntaganda*, *supra* n. 46, par. 111. Specifically, the Appeals Chamber in *Prosecutor v. Omar Hassan Ahmad Al Bashir*, 'Judgment on the appeal of the Prosecutor against the "Decision on the Prosecution's Application for a Warrant of Arrest against Omar Hassan Ahmad Al Bashir"', 3 February 2010, ICC-02/05-01/09-OA, par. 33, laid down the possibility of proving intent through indirect evidence. Similarly, *Prosecutor v. Mitar Vasiljević*, 'Judgement', Appeals Chamber, 25 February 2004, IT-98-32-A, par. 120.

182 J. C. Lawrence and K. J. Heller, *supra* n. 174, at 80 (22).

183 Corn, *supra* n. 115, at 363.

184 *Prosecutor v. Gotovina et al.*, IT-06-90-T, 'Judgement', 15 April 2011, IT-06-90-T, par. 1910.

185 ICTY Committee, *supra* n. 56, par. 50.

> perpetrator, making reasonable use of the information available to him or her, could have expected excessive civilian casualties to result from the attack.[186]

As to the ICC, Trial Chamber II in *Katanga*, referring to proportionality in passing, recalled the importance of assessing a military advantage from the "attacker's perspective".[187] Although the Court stopped there and did not delve further into the notion, in *Ntaganda* Trial Chamber VI used the "reasonable person" standard in its analysis of the war crimes of attacking civilians and civilian objects.[188] This so-called reasonable commander test[189] was indeed originally conceived as a response to unjustified, disproportionate attacks in order to counterbalance the subjectivity of military decisions.[190] Therefore, under IHL deciding upon the necessity and proportionality of an attack must generally reflect reasonableness.[191] Military commanders have a positive obligation to both make a reasonable use of all the available information and to take all the feasible precautionary measures before launching an attack.[192] In the absence of those reasonable precautions or where certain information has purposedly been omitted, their "knowledge" could thus still be construed.[193]

Two issues arise here. First, whereas the appropriateness of drawing on this test to interpret Article 8(2)(b)(iv) was indeed debated during the drafting of the EoC, in the end was supposedly dropped via footnote 37.[194] As to the literature, some commentators support this view meaning that the Court should assess the case from the alleged perpetrator's subjective perspective , while others hold that this is the basis for the assessment of the Court.[195] Taking a middle ground, Naqvi considers that the reasonable commander test, as an stablished principle of IHL, should be generally applied at the ICC in accordance with Article 21(1)(b) RS.[196] Otherwise, the assessment of the accused's value judgment solely on the basis of the available information to them at the time i.e. the aforementioned Rendulic Rule in cases of mistake of fact, without the counterbalance of honesty and reasonableness, would dilute IHL rules related to precaution.[197] Secondly, as above stated, the Rome Statute's general standard demands actual knowledge, as opposed to constructive. However, the reasonable commander test merely "describes the standard against which a decision on proportionality is to be made or judged", in other words, whether the military commander's assessment is justified.[198] It does not modify the required mental state but may be used to either equate or prove actual knowledge

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186 *Prosecutor v.* Stanislav *Galić*, *supra* n. 114, par. 58.
187 *Prosecutor v. Germain Katanga*, *supra* n. 31, par. 893.
188 *Prosecutor v. Bosco Ntaganda*, *supra* n. 46, paras. 921 and 1162.
189 Note, however, that some authors remark the differences between a "reasonable person" and a "reasonable commander". See, Henderson and Reece, *supra* n. 103, at 841-842.
190 Y. Naqvi, 'The Limits of Honest Judgment: The Reasonable Commander Test and Mistake of Fact', in N. Hayashi and C. Lingaas (eds), *Honest Errors? Combat Decision-Making 75 Years After the Hostage Case* (Asser Press and Springer, The Hague, 2024) 177, at 192.
191 Gasser, *supra* n. 77, at 249; Freeland, *supra* n. 9, at 136-137; Corn, *supra* n. 115, at 364.
192 Dill, *supra* n. 165, at 11.
193 Moneta, *supra* n. 61, at 287-289; Naqvi, *supra* n. 190, at 192-194.
194 Dörmann, *supra* n. 40, at 164-165.
195 Lawrence and Heller, *supra* n. 174, at 83 (25); Arnold and Wehrenberg, *supra* n. 27, at 377.
196 Naqvi, *supra* n. 190, at 202.
197 *Ibid*., at 211.
198 Henderson and Reece, *supra* n. 103, at 840.

in instances of wilful blindness, for consciously turning a blind eye on the facts would not be reasonable.[199]

On this point, the situation described previously, where the drafters of the EoC believed that an accused who gives no thought to evaluating the possible excessiveness of the anticipated damage ought not be exonerated, seems to entail that the alleged perpetrator either consciously decided not to engage in the evaluation or carelessly underestimated it. That is, wilful blindness. According to Finnin, where the accused is aware of the high probability of a circumstance or a consequence "but purposely refrained from obtaining the final confirmation […], Article 30(3) [i.e. knowledge] should be interpreted as allowing proof by at least a limited form of wilful blindness".[200] As a matter of fact, the introduction of this term was discussed during the *travaux préparatoires* to the Rome Statute as a means to improve Article 30's knowledge definition and limit the mistake of fact defence.[201] Although ultimately dropped from general application, with exceptions,[202] we argue that the "blithely presumption" argument which was considered for Article 8(2)(b)(iv) during the drafting of the EoC refers precisely to wilful blindness.

In conclusion, the unreasonableness of the decision based on wilful blindness, where applicable, is a necessary but insufficient basis for proving guilt.[203] In addition, the excessive incidental damage "needs to be a highly probable consequence of the attack known as such to the attacker and not just a potential outcome or a mere risk", in line with the Court's standard of virtual certainty.[204]

(C) RELEVANT FINDINGS OF FACT

Despite the immense amount of data about the Israeli campaign on Gaza and the destruction brought upon it, the environmental reports consulted so far assess the damage to the Gazan natural environment from the perspective of the conflict as a whole, not regarding specific attacks. Bearing this in mind, and the initial stage of the investigations on environmental harm (uncertain until work in the field is allowed), this section analyses the findings on the prohibited conduct launching an attack and expected consequence widespread, long-term and severe environmental damage separately, in a more generic fashion.

(1) Israeli Attacks on the Gaza Strip. Justified Military Advantage?

The numerous bombardments and strikes on, as well as the ground invasion of, the Gaza Strip by the Israeli military during the so-called Swords of Iron War[205] are

199 Moneta, *supra* n. 61, at 287-289; Naqvi, *supra* n. 190, at 192-194 and 202-204.

200 Finnin, *supra* n. 161, at 350-351, citing Badar. On this doctrine see, e.g., G. M. Gilchrist, 'Willful Blindness as Mere Evidence', 54 *Loyola Los Angeles Law Review* (2021) 405 453.

201 Naqvi, *supra* n. 190, at 202-203.

202 In instances of command responsibility, this doctrine is "particularly pertinent to the military commander who creates his own absence of knowledge through culpable disregard". See, D. Robinson, 'A Justification of Command Responsibility', 28 *Criminal Law Forum* (2017) 633 668, at 658[doi: 10.1007/s10609-017-9323-x].

203 Corn, *supra* n. 115, at 364.

204 Moneta, *supra* n. 61, at 289.

205 The Knesset, 'Swords of Iron War', accessed March 2025.

undoubtedly attacks in the sense explained in Section (B)(2)(a).[206] Bearing in mind that the Gaza Strip, one of the most densely populated territories in the world, is (or was) a highly urbanised region, it should come as no surprise that most of the combat action has taken part in densely populated urban areas. In such scenario where compliance with the fundamental principles of IHL is critical, Israel has instead persisted in using weapons with wide-area effects, causing "[h]igh civilian casualties […] accompanied by widespread destruction of and damage to civilian objects".[207] While this is of the utmost concern, it would be wise to recall that IHL rules on the protection of the environment do not decay during "urban warfare", which may lead to a wide range of environmental impacts.[208]

As it has been touched upon, an attack or military operation in the narrow sense may encompass different actions and extend both geographically and temporally. For instance, the first day of the ground invasion of the Gaza Strip by the Israeli forces on 27 October 2023 consisted of several incursions from different points backed up with intense bombardments, all events arguably falling under the same attack even if continued days after.[209] However, every different assault on the towns across Gaza would most likely be considered different attacks. To mention but one precedent, in *Ntaganda* the ICC had to adjudicate on several different crimes which had been committed through two different military operations, the *First Attack* and the *Second Attack* in the language of Pre-Trial Chamber II, which consisted of several assaults on different towns and villages.[210] Upon analysing the commission of the war crime of attacking protected objects, the Court regarded each single assault as different attacks.[211]

Assuming that the total siege of the Gaza Strip as declared by the Israeli authorities was the overall military operation,[212] from the beginning of the ground invasion until the warrants of arrest for Mr. Netanyahu and Mr. Gallant issued on 21 November 2024 there took place a high number of attacks.[213] If, as it has been argued, Article 8(2)(b)(iv) does not contemplate the accumulation of different attacks, it would be virtual impossible that a single attack met the threshold of widespread, long-term and severe damage, just as

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206 According to the Armed Conflict Location & Event Data (ACLED), between the scalation of hostilities on 8 October 2023 after the Hamas' mass attacks and the issuing of the arrest warrants on 21 November 2024, the Israeli forces carried out 7,041 airstrikes, 4,826 bombings, and 1,344 on-ground battles. See ACLED, 'Gaza Monitor: 7 October 2023 to Present', accessed March 2025.

207 UN High Commissioner for Human Rights (UNHCHR), 'Report on the Human rights situation in the Occupied Palestinian Territory, including East Jerusalem, and the obligation to ensure accountability and justice', 13 February 2025, UN Doc. A/HRC/58/28, par. 14.

208 See Massingham, Almila, and Piret, *supra* n. 108.

209 Following ACLED's data there were 33 airstrikes, 7 bombings, and 5 ground incursions from the Rafah's coastline, the Al Burayj area and eastern borders, and the Beit Hanoun town and northern borders. See *supra* n. 206, filtering results by date and source.

210 *Prosecutor v. Bosco Ntaganda*, 'Decision Pursuant to Article 61(7)(a) and (b) of the Rome Statute on the Charges of the Prosecutor Against Bosco Ntaganda', 9 June 2014. ICC-01/04-02/06, par. 29.

211 *Prosecutor v. Bosco Ntaganda*, *supra* n. 46, paras. 1138-1144.

212 E. Fabian, "Defense Minister Announces 'Complete Siege' of Gaza: No Power, Food or Fuel", *The Times of Israel*, 9 October 2023.

213 For specifics see, e.g., UNHCHR, *supra* n. 207, paras. 10-28; Independent International Commission of Inquiry on the Occupied Palestinian Territory, including East Jerusalem, and Israel (IICI hereinafter), 'Detailed findings on the military operations and attacks carried out in the Occupied Palestinian Territory from 7 October to 31 December 2023', 10 June 2024, UN Doc. A/HRC/56/CRP.4, § F.

difficult as it would be to determine specifically which attack. For instance, between 42.6% and 70% of the Gaza Strip's agricultural land has been destroyed, together with 83% of plant life.[214] However, this damage was inflicted during different stages of the campaign, namely the initial bombardments of October 2023 and the subsequent ground invasion, which in turn was developed through several phases every of which was followed by backup strikes and artillery bombardments.[215] One may consider some of those stages as a single attack concerning the erasing of the agricultural land, although ultimately the decision would rely upon the adjudicator's stance on the concept of attack and its scope, and the precedent set in *Ntaganda* counters this interpretation. Moreover, the damage on agricultural land do not represent the total harm inflicted to the Gazan natural environment caused throughout the conflict.

It has been posited as well that only nuclear weapons would be capable of delivering such destruction in a single attack. One could argue that the use of an amount of conventional explosives equivalent to two nuclear bombs in the Gaza Strip not only would meet the prohibited threshold, in case that cumulative effects were accounted for, but should be regarded as clearly excessive.[216] Nevertheless, as Schmitt remarked "it is not the degree of collateral damage that the rule of proportionality is meant to address, but rather the relationship between [it] and military advantage".[217] That is to say, the criterion here is the value subjectively ascribed to the latter which, were considered essential, could outweigh any kind of environmental damage except for the most egregious.[218] Concerning the events over the conflict in Gaza, the ultimate goal according to Israel's government was to "destroy Hamas's military capabilities and topple its regime in the Gaza Strip".[219] Therefore, any attack launched within the whole military operation or campaign under scrutiny must be analysed against this backdrop, in the sense of whether it offers a military advantage to achieve that goal.

Bearing this in mind, the invasion arguably offers a definite, substantial military advantage since the gaining of enemy's ground may serve the ultimate purpose of destroying Hamas' military capabilities. Against this backdrop, the damages on the Gazan agricultural land and flora considered in isolation would rarely be labelled as excessive. If as the ICTY Report noted "the targeting by NATO of Serbian petrochemical industries may well have served a clear and important military purpose", what are the odds of (allegedly) targeting an enemy leader not conferring a very substantial military advantage?[220] To illustrate this, on 13 July 2024 Hamas' military commanders Mohammed "Deif" and Rafe Salamah were killed by an airstrike in the area of Al-Mawasi, west of Khan Younis, a coastal region filled with displaced and refugee camps which Israel had designated "safe zone".[221] According to ACLED the attack, using indiscriminate

214 See *infra* n. 253 and 281.
215 Forensic Architecture, *A Spatial Analysis of the Israeli Military's Conduct in Gaza since October 2023* (Goldsmiths, London, 2024), at 248-249.
216 See *infra* n. 282.
217 Schmitt, *supra* n. 43, at 154.
218 Lawrence and Heller, *supra* n. 174, at 73-74 (15-16), citing Schmitt.
219 See *supra* n. 205.
220 ICTY Committee, *supra* n. 56, par. 22.
221 L. Clarke-Billings, 'IDF Says Senior Hamas Commander Killed in Israeli Air Strike', *BBC News*, 14 July 2024; T. Ambrose, K. McEwen, and H. Livingstone, 'Middle East Crisis: Israel Confirms Death of Hamas

means, killed 90 civilians and injured 300.[222] A total of eight 2,000-pound bombs was dropped.[223] Although this event consisted of a single strike, the area of Al-Mawasi had been attacked both before and after 13 July 2024, killing more civilians while allegedly targeting "senior Hamas members" even when both Deif and Salamah were deceased, raising "serious concerns about compliance with […] proportionality".[224] Here we confront two obstacles that govern great part of the conflict: (1) misgivings about the legitimacy of the objective, which could impede the enforcement of Article 8(2)(b)(iv);[225] (2) although surely contributing to the collapsing of sewage networks and debris accumulation of an already environmentally insalubrious, overcrowded area,[226] this single attack could hardly be considered excessive compared against the military advantage obtained from killing important enemy military commanders. At least for what regards Article 8(2)(b)(iv), second alternative, given the poor value historically attributed to the environment during armed conflicts,[227] for claims about proportionality regarding the first alternative i.e. civilian casualties or injuries would be harder to uphold.[228]

In line with the precautionary duties of a military commander, one of the key points while reviewing a disproportionate attack is whether there were another means to minimise collateral damage and still achieve the same military advantage.[229] Particularly, the objective circumstances post-attack, such as the analysis of the debris of the bomb, may be an important indication of "the means and methods used in the course of the attack and [on] whether the attacker complied or attempted to comply with the precautionary requirements".[230] The figures on the quantity of explosives and associated debris shown in the next section would thus be useful in that regard. Similarly, in *Katanga* ICC Trial Chamber II observed that military necessity demands that only imperative reasons where the attacker had no other choice "could justify acts of destruction which would otherwise be proscribed".[231] That is to say, albeit collateral damage may be lawful under certain circumstances, this fact alone does not suppress the obligation to select means

Military Chief Who Masterminded 7 October Attack as It Happened', *The Guardian*, 1 August 2024.

222 See *supra* n. 206, filtering results by date and source.

223 D. Lieber, F. Abdul-Karim, and L. Seligman, 'To Target a Top Militant, Israel Rained Down Eight Tons of Bombs', *The Wall Street Journal*, 16 July 2024.

224 UNHCHR, *supra* n. 207, paras. 16 and 18. See also IICI, *supra* n.213, paras. 120 ff.

225 As Dannenbaum and Dill argues in *supra* n. 2, at 664, the mere presence of the targeted Hamas personnel should not render their personal homes legitimate military objectives automatically.

226 Z. Dardona et al., 'Health and Environmental Impacts of Gaza Conflict (2023-2024): A Review', *One Health Bulletin* (2025) 1–12 [doi: 10.4103/ohbl.ohbl_42_24].

227 See, e.g., N. P. Gleditsch, 'Armed Conflict and The Environment: A Critique of the Literature', 35 *Journal of Peace Research* (1998) 381–400 [doi: 10.1007/978-94-015-8947-5]; B. Sjöstedt and K. Hulme, 'Re-Evaluating International Humanitarian Law in a Triple Planetary Crisis: New Challenges, New Tools', 105 *International Review of the Red Cross* (2023) 1238–1266 [doi: 10.1017/S1816383123000449].

228 Office of the High Commissioner for Human Rights (OHCHR), 'Thematic Report: Indiscriminate and Disproportionate Attacks during the Conflict in Gaza (October–December 2023)', 19 June 2024, at 13. In *Gotovina*, the ICTY ruled that targeting an apartment block located in a civilian residential area where it was believed to be the enemy's leader offered a definite military advantage, but the risk of a high number of civilian casualties and injuries was excessive, and the attack was thus disproportionate. See *Prosecutor v. Gotovina et al.*, *supra* n. 184, par. 1910.

229 Moneta, *supra* n. 61, at 293.

230 *Ibid.*, at 274.

231 *Prosecutor v. Germain Katanga*, *supra* n. 31, par. 894.

and methods of warfare that minimise or avoid both harm whether to civilian, civilian objects or the environment. The use of highly explosive weapons to take down single individuals or wiping out the Gaza Strip to take over Hamas, while aware of the obvious, large-scale damage these attacks will bring with them, is particularly disturbing bearing in mind the proven ability of the IDF to launch precise strikes.[232] The indiscriminate nature of the campaign is all the more serious considering the use by the Israeli military of artificial intelligence-assisted targeting systems, apparently lowering selection criteria while increasing accepted collateral damage.[233]

With regard to the red lines presented in the former example, the Special Rapporteur on the situation of human rights in the Palestinian territories occupied since 1967, Francesca Albanese, has warned that Israel is turning the whole Gaza Strip into a military objective, abolishing *de facto* the due distinction required for civilian objects.[234] They have also expanded unlawfully the notion of proportionate collateral damage in order to cover alleged indiscriminate attacks; and, above everything, "their proportionality assessments have flouted legal requirements by defining military advantage, in each attack, in relation to the destruction of the whole Hamas organization both politically and militarily".[235] In the words of the Special Rapporteur, taking the overall political purpose of war as the value against which measure incidental harm is not only manifestly illegal but offers an argument through which the destruction of civilian objects including the environment will always be proportionate in the eyes of the attacker.[236] To be sure, both military and civil Israeli authorities have often claimed to be attacking Hamas' positions when damaging or destroying civilian infrastructure.[237] As far as we know, whereas this may be true in some cases, in others such those occurred in areas already under Israeli control such claims are doubtful.[238] In yet other cases, no claim about the military nature of the target was made at all.[239]

Finally, despite the military advantage anticipated from a single attack may be assessed in the context of the campaign's overall objective, the attack still must serve a specific purpose in advancing towards the final goal. In our view, if each attack is claimed to offer the same military advantage or this merely refers to the conflict's general purpose, that advantage must be considered vague or indeterminate. Consequently, the collateral damage arising from an attack the military advantage of which turns out to be invalid

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232 OHCHR, *supra* n. 228, at 11.

233 As the Independent Task Force reported, "[s]trikes against [IA-identified] targets are often authorized without further oversight". See, N. Erakat and J. Paul, 'Report of the Independent Task Force on the Application of National Security Memorandum-20 to Israel', 2024, at 28. See also, *Report of the Special Committee to Investigate Israeli Practices Affecting the Human Rights of the Palestinian People and Other Arabs of the Occupied Territories* (Report of the Special Committee hereinafter), 20 September 2024, UN Doc. A/79/363, par. 11, which speaks of targeting thousands of objectives at once.

234 F. Albanese, *Anatomy of a Genocide*, Report of the Special Rapporteur on the Situation of Human Rights in the Palestinian Territories Occupied since 1967, 1 July 2024, UN Doc. A/HRC/55/73, paras. 63-68.

235 *Ibid*., paras. 69-75. On the seemingly *contra legem* expansion of proportionality to justify unlawful attacks appearing in both recent legal and military narratives, see Daniele *supra* n. 61.

236 *Ibid*., par. 74.

237 UNHCHR, *supra* n. 207, paras. 15-16.

238 On the former, IICI, *supra* n. 213, paras. 90-91. On the latter, Human Rights Watch, '*Extermination and Acts of Genocide. Israel Deliberately Depriving Palestinians in Gaza of Water*' (New York, 2024), at 63.

239 OHCHR, *supra* n. 228.

should be automatically unlawful and render the attack disproportionate. Even in those blurred cases where the target is accepted as a military objective and the advantage offered by its destruction seems legitimate, as with the Hamas' tunnels constructed underneath civilian buildings, proportionality and precaution concerns arise regarding the widespread bombing of the surface rather than choosing more precise and less destructive means available.[240] Method which would be later replaced by the flooding of the tunnels, creating in turn serious risks of contamination and irreversible damage to groundwater sources.[241] In this regard it must be recalled that the military advantage sought does not automatically justify attacking a civilian object as a means to neutralise a distinct military objective. As Dannenbaum and Dill put it, "seeking lawful consequences cannot legitimate the use of unlawful means".[242]

(2) Damage Inflicted to the Natural Environment

The documented Israeli military's total disregard for both the target selection and the scope of the damage suggests that the commander who ordered the attack or attacks did not take all feasible and reasonable precautions before launching it, and that the assessment concerning excessiveness was either absent or blithely presumed. Israel's official position on the protection of the environment under IHL is compelling in that regard. As per their comments on the ILC's Draft Principles, Israel considers that elements of the natural environment which are neither civilian objects nor military objectives are not protected under customary international law and thus should not be incorporated into proportionality assessments.[243] Assuming that the Israeli military have stuck to these guidelines during their campaign in Gaza would be merely speculative, although it may help to shade light on the logics by which the IDF operate.

To conduct their hostilities, the IDF have relied mainly on "conventional" means of warfare consisting of ground forces backed with intense artillery fire and bombardments from land, air, and sea.[244] These attacks, as will be more detailed in the following paragraphs, have resulted largely in immediate physical damage to the environment directly caused by battlefield impacts, such as bomb craters and soil removal, as well as infrastructure destruction and the consequent debris. As to indirect damage, "[t]he unprecedented scale of destruction has dramatically affected water, sanitation, and hygiene [WASH] systems, leading to widespread contamination of soil, beaches, coastal waters and freshwater sources, with immediate and long-term risks to public health, marine life, arable land and access to clean water".[245]

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240 *Ibid*., at 15. See, also, Dannenbaum and Dill, *supra* n. 2, at 665.

241 D. Gayle and N. Lakhani, "Flooding Hamas Tunnels with Seawater Risks 'Ruining Basic Life in Gaza', Says Expert" *The Guardian*, 23 December 2023; R. Bergman, 'Israeli Military Confirms It Has Begun Flooding Hamas Tunnels', *The New York Times*, 30 January 2024; UNEP, Environmental Impact of the Conflict in Gaza: Preliminary Assessment of Environmental Impacts (Nairobi, 2024), at 42.

242 Dannenbaum and Dill, *supra* n. 2, at 666.

243 ILC, 'Protection of the environment in relation to armed conflicts. Comments and observations received from Governments, international organizations and others', UN Doc. A/CN.4/749, 17-18 (17 January 2022).

244 Office for the Coordination of Humanitarian Affairs (OCHA), 'Hostilities in the Gaza Strip and Israel. Flash Update #104', 28 January 2024.

245 Report of the Special Committee, supra n. 233, par. 35.

Following the day of the invasion, the evidence shows a direct correlation between, *inter alia*, the clearing and destruction of the Gaza Strip's agricultural land and vegetation cover and the actions of the IDF, as well as affecting other life-supporting infrastructure such as water wells.[246] While Amnesty International declares that they "cannot establish the circumstances and lawfulness of damage and destruction of agricultural land in all cases", they nonetheless assert that such destruction was "part of its operations to significantly expand a 'buffer zone'".[247] Which means that, at least in some cases, the harm thereto was not incidental to direct combat action but intentional. Nevertheless, the intentional physical destruction of, say, an orchard could still cause collateral damage, such as the contamination of the surrounding soil. On WASH infrastructure, according to Human Rights Watch such destruction was deliberate in many cases, while in others it could be a collateral consequence of targeting other military objectives.[248] For instance, by 12 October 2023, only five days after the beginning of the escalation of hostilities, six water wells, three water pumping stations, one water reservoir stations and a desalination plant had been damaged as result of the conflict.[249] Overall, Forensic Architecture notes that the repeated and cumulative patterns of destruction "suggests that it is not incidental to operational contingency".[250] Therefore, whether this conduct falls under the scope of Article 8(2)(b)(iv) of the Rome Statute will depend on the categorisation of (1) the targets as military objectives, and (2) the resulting collateral damage as unintentional but excessive. It must be highlighted in this regard that the current conflict has only worsened the already fragile state of the Gazan environment,[251] reason whereby the exact contribution of the Israeli attack(s) as to the extent of the damage will prove even harder to determine.

(a) Widespread

A narrow understanding of "widespread" applied to the *Situation in the State of Palestine* would be problematic from the beginning since the total extension of the Gaza Strip is of approximately 360 square kilometres — barely the several hundred square kilometres required in the context of Additional Protocol I. Such a view would entail impunity for the destruction of the entire natural environment of States falling short of that size.[252] Focusing on the terrestrial environment only, at the time of writing between 42.6% and 70% of the Gaza Strip's agricultural land, amounting up to 104 square kilometres, has

246 Forensic Architecture, *supra* n. 215, at 242 ff. and 507 ff.; Amnesty International, *'You Feel Like You Are Subhuman'. Israel's Genocide Against Palestinians in Gaza* (London, 2024), at 126.
247 Amnesty International, *ibid*, at 127-128.
248 Human Rights Watch, *supra* n. 238, at 63.
249 IICI, *supra* n. 213, par. 222.
250 Forensic Architecture, *supra n.* 215, at 300.
251 UNEP, *supra* n. 241, at 12-17.
252 A similar concern was expressed in the first revision of the ENMOD Convention in 1984, where the delegate of Sweeden highlighted the possibility for States territorially smaller than "several hundred square kilometres" to be rendered legally defenceless. See, First Review Conference of the Parties to the Convention on the Prohibition of Military or Any Other Use of Environmental Modification Techniques, 'Summary Record of the 7th Meeting', 17 September 1984, UN Doc. ENMOD/CONF.I/SR.7, at 3, par. 3.

been destroyed.[253] Adding the destruction of between 25% and 50% of the Wadi Gaza Nature Reserve, this represents approximately 19% of all Gazan land at best, and 29% at worst.[254] Damages accounting for almost a third of a territory would seem widespread using a relative standard. To compare it with the figures of the Vietnam War, 3.250 square kilometres of South Vietnamese forests were cleared, accounting for approximately 1,87% of the country's surface.[255] At the same time, more than 20.000 square kilometres were sprayed with herbicides,[256] representing an estimated 14% of the total extent of the territory's woody vegetation.[257]

As of January 2024, more than 60% of all Gazan infrastructure has been either damaged or destroyed.[258] This destructive pattern, which furthermore is a source of environmental contamination and risks to human health,[259] has spread "across almost the entire territory of the Gaza Strip", thus increasing the extension of the damage to that of several hundred square kilometres.[260] The obliteration of Gaza as a whole becomes apparent in the United Nations Satellite Centre's (UNOSAT) analysis of the satellite imagery captured by Sentinel-2.[261] Moreover, the possible geographical spread of the contamination beyond the area initially expected is relevant in assessing the extent of the damage.[262] In Gaza, the destruction of the wastewater, solid waste and fuel-related infrastructure has led to the contamination of the sea, the soil and the groundwater.[263] "Airborne particulate pollution laden with hazardous compounds as dust/air pollution" additionally contaminates these environments as well as crops and food supplies.[264] Finally, the war-related GHG emissions estimates as to March 2024 alone may amount to more than the annual emissions of 26 States,[265] indicator which may serve to illustrate both the "widespread" and "long-term" elements of the environmental impact, bearing in mind the distribution and persistence patterns of GHG.

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253 For the figures see, respectively, UNEP, *supra* n. 241, at 32, citing the analysis of the UN Food and Agriculture Organisation (FAO); Forensic Architecture, *supra* n. 215, at 242; *supra* n. 246, at 126-128. The differences on the figures may be attributed to several factors, such as the temporal scope of the data.

254 According to UNESCO, The Wadi Gaza Nature Reserve covers the 7 kilometres-long and 100 meters-wide route of the Wadi along the Gaza Strip. See, State of Palestine, 'Wadi Gaza Coastal Wetlands', 2 April 2012.

255 Westing, as cited in Eliana Cusato, 'From Ecocide to Voluntary Remediation Projects : Legal Responses to Environmental Warfare in Vietnam and the Spectre of Colonialism', 19 *Melbourne Journal of International Law* (2018), at 6.

256 J. M. Stellman et al., 'The Extent and Patterns of Usage of Agent Orange and Other Herbicides in Vietnam', 422 *Nature* (2003) 681 687, at 5, Table 2 [doi: 10.1038/nature01537].

257 A. L. Young, 'Agent Orange: A Controversy without End', 3 *Environmental Pollution and Protection* (2018) 100 108, at 101 [doi: 10.22606/epp.2018.34002].

258 World Bank, supra n. 5, at 10.

259 Mainly through unexploded ordinance and other hazardous substances such as asbestos. See UNEP, *supra* n. 241, at 23-27.

260 *Ibid*., 23.

261 See, UNOSAT, 'Gaza Strip Comprehensive Damage Assessment', published 13 December 2024, accessed July 2025; UNOSAT-FAO, 'Gaza Strip Cropland Damage Assessment', published 30 January 2025, accessed July 2025; UNOSAT-FAO, 'Gaza Strip Greenhouse Comprehensive Damage Assessment', published 30 January 2025, accessed July 2025.

262 ICRC, *supra* n. 54, par. 57.

263 See, UNEP, *supra* n. 241, at 19-31.

264 *Ibid*., 37.

265 Of which, the estimate emissions from Israeli bombs and artillery alone amount to 78.236 tons of CO_2. See, B. Neimark et al., 'A Multitemporal Snapshot of Greenhouse Gas Emissions from the Israel-Gaza Conflict', *SSRN Electronic Journal* (2024), at 11.

(b) Long-term

This element is probably the most troublesome altogether, bearing in mind that "it is impracticable to calculate in advance the likely durability of environmental damage".[266] Even a scientific assessment conducted ex post as UNEP's is still preliminary and thus inconclusive. However, consistent with the no-result rule, no proof is needed albeit helpful about the actual time scale of the damage. What matters is whether the alleged perpetrator expected it to be long-term. Otherwise, no prosecution could be brought until years, perhaps decades, after the end of the conflict.

Be that as it may, heavy metal contamination deriving from the weaponry used in the conflict by the Israeli military so far has been recorded.[267] These hazardous materials, which cause direct and immediate toxicity to flora and fauna and enter the human body through food webs, can last for decades.[268] Even though the latter is rather a general estimation than a conclusive evaluation on the timescale of the effects of this particular conflict, the risk of long-term ecological impacts deriving from different sources of conflict-related contamination is extensively informed in UNEP's report. Risks that will persist "long after the hostilities have ended".[269] Another possible indicator of this element is the time that will take to clean-up the disaster, given that both infrastructure debris and ammunition debris contains hazardous substances that may continue to contaminate the environment and harm people while not removed. According to estimates, cleaning all the debris may take up to 15 years, and around 45 years to recycle half of it.[270]

In the NATO bombing case, the ICTY Committee was of the opinion that the environmental damage caused by the airstrikes of fuel stores and other industries, which released toxic chemicals into the environment, did not reach the threshold of Additional Protocol I, based as well on a UNEP's study.[271] Nevertheless, it highlighted that due to the temporal closeness with the end of the conflict, the study "[could] not be a reliable indicator of the long-term environmental consequences" and that an accurate assessment on the matter could not yet be practicable.[272] Therefore, the dismissal to initiate an investigation was based on a lack of reliable information, rather than on the preliminary evidence against the long-term environmental impacts of the attacks.[273]

Considering the uncertainty surrounding the temporal impact of the environmental devastation caused in Gaza, more studies will indeed be necessary. Regardless, it seems acceptable to affirm that the damage has been at the very least sustained for several

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266 Y. Dinstein, 'Protection of the Environment in International Armed Conflict', in 5 *Max Planck Yearbook of United Nations Law* (2001) 523–549, at 543 [doi: 10.1163/18757410 1X00141].

267 UNEP, *supra* n. 241, at 40.

268 *Ibid*.

269 UN Development Program, *Gaza war: Expected socioeconomic impacts on the State of Palestine*, 22 October 2024, UN Doc. E/ESCWA/UNDP/2024/Policy brief.2, at 7.

270 UNEP, *supra* n. 241, at 27.

271 ICTY Committee, *supra* n. 56, par. 17.

272 *Ibid*.

273 *Ibid*., paras. 24-25.

months so far.[274] In light of the ENMOD Convention, this element of the threshold would thus be met. Finally, were the Court to depart from both interpretations, one possible approach would be that of equating "long-term" to irreversibility.[275] In this respect, both the Gaza aquifer and the Wadi Reserve are at high risk of irreversible damage as a consequence of the conflict;[276] there are claims of the once at least 250 bird species inhabiting Gaza going nearly extinct;[277] and the UN High Commissioner for Human Rights (UNHCHR) informed of entire areas of land rendering unhabitable due to intense Israeli bombing.[278] These concerns were mirrored in a report taken to the UN General Assembly warming that "the collapse of water and sanitation services [is] risking 'irreversible damage' to natural ecosystems and causing dire health impacts for Gazans".[279]

(c) Severe

As it has been argued, one of the factors to assess severity may be linked to the viability of ecosystems. In that case, the risk of irreversible harm outlined above, meaning permanent loss of ecosystem services or its quality, could as well be considered here. Specially for what regards the Wadi Gaza Nature Reserve by virtue of its condition as a singularly valuable site.[280] Other factors are the extent or scale of the damage, the number of victims and the methods employed. Whereas there is no definite data on the number of non-human casualties and how exactly the viability of the ecosystems in and surrounding Gaza will be affected, the destruction of 83% of all plant life in Gaza will definitely affect terrestrial biodiversity and food systems, undermining ecosystem health.[281] On the other hand, we do have figures reflecting the large-scale of the attack(s) and the destruction brought. Namely, only between October 2023 and February-July 2024 an estimate of more than 25,000 tons of explosives, equivalent to two nuclear bombs, were deployed.[282] And by May 2024 the amount of destruction-related debris was of over 39 million tons,

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274 As UNEP reports, "one indicator of the [environmental] impacts is the increasing rates of communicable disease in Gaza", where only in the three months following October the WHO reported, for instance, 179,000 cases of acute respiratory infection and 136,400 cases of diarrhoea among children under five due to air and water pollution respectively. See, UNEP, *supra* n. 241, at 18.

275 The term generally reflects the idea of permanent loss, or which cannot be restored in a human timescale, of ecosystem services and/or quality. See, generally, L. Buhr et al., 'The Concepts of Irreversibility and Reversibility in Research on Anthropogenic Environmental Changes', 4 *PNAS Nexus* (2024) 13 [doi: 10.1093/pnasnexus/pgae577]. This interpretation has been indeed proposed in the context of ecocide by Stop Ecocide Foundation's Panel. See, *supra* n. 10.

276 See, UNEP, *supra* n. 241, at 21; M. Abd El Hay, *The Environmental-Humanitarian Impacts of the Israel-Hamas War in Gaza* (Arava Institute for Environmental Studies, Ketura, 2024), at 21.

277 All official reports on Palestinian biodiversity, at least from the Palestine National Clearing-House Mechanism Website are prior to 2023. This statement, attributed to the Director of Monitoring and Inspection at the Palestinian Environmental Quality Authority by an Egyptian digital media, is thus less reliable. See, 'Israeli Occupation Destroys Gaza's Biodiveristy', *Egypt Today*, 15 August 2024.

278 UNHCHR, *supra* n. 207, par. 17.

279 Report of the Special Committee, *supra* n. 233, par. 33.

280 C. R. Payne, 'Protection of the Natural Environment', in B. Saul and D. Akande (eds), *The Oxford Guide to International Humanitarian Law* (Oxford University Press, Oxford, 2020), 205, at 212-124.

281 Forensic Architecture, *supra* n. 215, at 250.

282 UNEP, *supra* n. 241, at 38; Forensic Architecture, *ibid.*, at 510.

"equivalent to ten Pyramids of Giza".[283] As to water contamination, by March 2024 an estimate of 60,000 cubic metres of wastewater and sewage were being released per day to the Mediterranean Sea.[284] Figure which may as well inform the geographical and temporal elements.

Considering the effects on human health derived from the conflict-related environmental degradation as a subsidiary indicator of the severity of the attacks, the following must be taken into account. In addition to the direct exposure to ammunition-related chemicals through inhalation, these hazardous substances enter the soil and leaches into groundwater, which is absorbed by crops, contaminating the food chain and then indirectly affecting human health.[285] People is being equally impaired due to the insalubrious conditions created by their forced displacement to highly dense areas and the destruction of WASH infrastructure.[286] Specifically, as of January 2024 nearly 65% of these facilities were damaged or destroyed,[287] whilst by April 83% of groundwater wells and all wastewater treatment plants were not operational, not only affecting the environment due to the insalubrious conditions but depriving people access to clean water, consequently impairing their health.[288] Moreover, according to the Integrated Food Security Phase Classification, by November 2024 the entire Gaza Strip was in acute food insecurity due to the collapse of food systems. The whole territory is indeed risking famine, "with 344,800 people at risk of experiencing [the highest] catastrophic levels of hunger (P5)".[289] These is significantly relevant for appears to point to the intentional starvation of Palestinians in Gaza through denying them access to objects indispensable to their survival, which involves the destruction of natural resources and environmental infrastructure such as food systems.

Last but not least, regarding the methods employed, even if neither Depleted Uranium (DU) nor white phosphorus ammunitions and weapons are straightforwardly banned in war, their use — which has been criticised for a while — must comply with the general principles of IHL.[290] Both white phosphorus and DU are known to be toxic for the environment.[291] Regarding human health, the long-term effects of the former are contentious, although it is accepted that the exposure to it should be low to prevent risks.[292] On the other hand, the direct burning-effects of the latter are well known and its use in densely populated areas should be avoided to prevent unnecessary suffering.[293] Given the uncertainties and the dangers surrounding this weaponry, its use — especially

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283 UNEP, *ibid.*, at 23-24.

284 *Ibid.*, at 21.

285 *Ibid.*, at 37.

286 *Ibid.*, at 19-23. For more data about the outbreak of diseases in Gaza and other health issues related to insalubrity see the WHO's Emergency Situation Reports.

287 IICI, *supra* n. 213, par. 222.

288 *Ibid.*, par. 223. Although subsequently it is stated that by April this figure was of 57%.

289 OCHA, 'Flash Appeal. Occupied Palestinian Territory', December 2024, at 7-10.

290 K. Sypott, 'The Legality of Depleted Uranium Munition under International Humanitarian Law,' 5 *Victoria University Law and Justice Journal* (2015) 51–62 [doi: 10.15209/vulj.v5i1.725]; S. N. Christensen, *Regulation of White Phosphorus Weapons in International Law*, (Torkel Opsahl Academic Epublisher, Brussels, 2016) 63.

291 Qumsiyeh, *supra* n. 7, at 7.

292 Y. Ran et al., 'A Review of Biological Effects and Treatments of Inhaled Depleted Uranium Aerosol', 222 *Journal of Environmental Radioactivity* (2020) 106357 [doi: 10.1016/j.jenvrad.2020.106357].

293 WHO, 'White Phosphorus', published 15 January 2024, accessed May 2025; Christensen, *supra* n. 290, at 41.

when indiscriminate could add additional layers of severity to an attack. There are claims about the Israeli Military having allegedly used both in the Gaza Strip repeatedly.[294] Finally, the indiscriminate use of explosive weapons in populated areas, such as GBU munitions, have caused a high number of civilian casualties and contributed to the negative effects on the environment e.g., by the creation of debris.[295]

Regardless of how despicable the inhumane living conditions forced on Palestinians are, they should not impede to recognise the importance of the environmental consequences of war. Rather, they contribute to worsen these conditions in the present and for future generations.[296] Sure, "these consequences are less urgent than the human suffering in the current Gaza conflict, but they constitute serious violations of international law and may be irreversible".[297] Notwithstanding its limitations, Article 8(2)(b)(iv) RS, second alternative, provides the ICC with an avenue to prosecute the unlawful environmental consequences of war along with, but independent from, civilian casualties.

(D) CRIMINAL RESPONSIBILITY

Considering all the facts presented herein, we agree with the OHCHR that there are "strong indications" that the incidental loss of civilian life, injury to civilians and damage to civilian objects to which we add the natural environment in Gaza is excessive, and thus violating proportionality.[298] Qualifier which "would have been apparent in the damage assessments undertaken by the IDF… given [their] experience of prior escalations".[299] Likewise, the report of the UNHCHR of February 2025 finds that the "broader targeting practices of Israel evidence a lack of compliance with fundamental principles of international humanitarian law, including […] proportionality and precautions in attack", which "may amount to war crimes".[300] Echoing the words of the Office for the Coordination of Humanitarian Affairs, the

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294 OHCHR, 'Six-Month Update Report on the Human Rights Situation in Gaza: 1 November 2023 to 30 April 2024', 8 November 2024, at 16.; International Coalition to Ban Uranium Weapons, 'Allegations of Depleted Uranium Use in Gaza', *ICBUW Blog Posts*, published 4 September 2024, accessed July 2024. With respect of DU, there is no direct evidence of their use in the present so far, although recent analyses have shown Uranium residues in Gaza from past conflicts. See, M. M. Abd Elkader, T. Shinonaga, and M. M. Sherif, 'Radiological Hazard Assessments of Radionuclides in Building Materials, Soils and Sands from the Gaza Strip and the North of Sinai Peninsula', 11 *Scientific Reports* (2021) 23251 [doi: 10.1038/s41598-021-02559-7].

295 OHCHR, *supra* n. 228, at 11-12; Report of the Special Committee, *supra* n. 233, par. 34.

296 See, e.g., P. Vesco et al., 'The Impacts of Armed Conflict on Human Development: A Review of the Literature,' 187 *World Development* (2025) 106806, [doi: 10.1016/j.worlddev.2024.106806].

297 C. Ahlborn and I. Mammadli, 'Protecting Gaza's Marine Environment in Armed Conflict: Shared or Exclusive International Responsibility?', Ejil:Talk!, published 30 June 2025, accessed July 2025.

298 OHCHR, *supra* n. 228, 14.

299 *Ibid*., at 13. In particular, the Goldstone Report concluded regarding the Israel's military operations in the Gaza Strip during 2008 and 2009 that the use of area weapons to "attempt to kill a small number of specified individuals" in an environment with large number of civilians, "cannot meet the test of what a reasonable commander would have determined to be acceptable […] for the military advantage sought". See, *supra* n. 100, par. 703. Moreover, as noted in Zwijnenburg, *supra* n.116, the "scope and severity of environmental damage resulting from attacks is more foreseeable than ever before".

300 UNHCHR, *supra* n. 207, par. 12. See also, Albanese, *supra* n. 234, par. 72.

> [c]onditions of life across Gaza are unfit for human survival. […] Most of Gaza is now a wasteland of rubble. Violence has destroyed homes, decimated livelihoods, crippled food systems, and resulted in the collapse of health services and water, sanitation and hygiene (WASH) systems. […] This has led to increasing hunger, starvation and now potentially famine.[301]

Up to now we have discussed the elements of Article 8(2)(b)(iv) RS as applied to direct perpetrators. However, the standard of fault and the specific evidence needed to prove the crime may vary depending on the form of participation or mode of liability the accused are charged with.[302] To analyse the issue of individual criminal responsibility we devote the following pages.

(1) Applicable law

Article 25(3) RS regulates the applicable modes of liability to hold individuals criminal responsible, distinguishing between principals in paragraph (a) direct perpetration, co-perpetration, and both indirect perpetration and co-perpetration and accessories or other forms of participation in paragraphs (b), (c) and (d).[303] According to the Court itself, criminal responsibility is to be determined through the "control over the crime" approach, as per which principals must show some type of control over the commission of the crime, whether physically or remotely ("mastermind"), as opposed to accessories.[304] Or even control over an organised and hierarchical apparatus of power, from which the crime is committed through the leader's direction and planning.[305]

Following the above approach, a direct perpetrator, whoever commits the crime individually pursuant to Article 25(3)(a) RS, first alternative, is the one who "physically carries out the objective elements of the offence".[306] In this regard, those responsible for attacks under IHL are those who "plan or decide" upon them (Article 57(2) of Additional Protocol I), i.e. military commanders or decision-makers. Hence, determining the appropriate mode of liability for those who plan or decide to launch an attack will depend on the exact meaning of "launching". It results that attack-related crimes are materially committed by the mere launching of the attack, even those consisting in directing an attack.[307] Put it differently, launching encompasses directing. Bearing in mind that in *Ntaganda* the Court defined directing an attack as "selecting the intended target and deciding on the attack", it may be inferred that directing focuses on the decision-making process before the attack, whereas launching refers to its execution.[308] Therefore, the main difference between these offences is that attacking or directing attacks against

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301 OCHA, *supra* n. 289, at 10.

302 On this matter see, generally, Jérôme de Hemptinne et al. (eds.), *Modes of Liability in International Criminal Law* (Cambridge University Press, Cambridge, 2019).

303 *Prosecutor v. Bahar Idriss Abu Garda*, *supra* n. 117, paras. 152-157; *Prosecutor v. Germain Katanga*, *supra* n. 31, par. 1396; *Prosecutor v. Bosco Ntaganda*, *supra* n. 46, paras. 69-70.

304 *Prosecutor v. Bahar Idriss Abu Garda*, *ibid*., par. 152.

305 *Prosecutor v. Germain Katanga and Mathieu Ngudjolo Chui*, *supra* n. 60, paras. 500-518.

306 *Prosecutor v. Bahar Idriss Abu Garda*, *supra* n. 117, par. 153.

307 *Prosecutor v. Germain Katanga*, *supra* n. 31, par. 799; *Prosecutor v. Bosco Ntaganda*, *supra* n. 46, paras. 904 and 1136.

308 *Ibid.*, paras. 744 and 917.

civilians or civilian objects focuses on the specific object of the attack, which must be intended to be any of the former.[309] Conversely, launching a disproportionate attack refers to its execution in the knowledge of the likely excessive, collateral damage that will result from it, rather than intending to target specific objectives.[310] As a consequence of sharing the same objective element, the direct perpetrator of attack-related war crimes, including Article 8(2)(b)(iv), will normally be the person who ordered the attack, "as opposed to the person who operated the weapon system".[311]

Nevertheless, acknowledging the intricate chain of command within military hierarchies and the involvement of different-level officials — even government authorities — in the decision-making process implies that, depending on the particular individual accused's rank or position, the act of ordering may well fit with any of the principal perpetrator's categories of Article 25(3)(a) RS. Even that of indirect co-perpetration.[312] The accessorial form of participation "ordering" of Article 25(3)(b), first alternative, would be as well possible given the superior-subordinate relationship necessary for this liability, intrinsic to top-down military orders — e.g., a superior official orders the attack to an inferior official, who launches it, i.e. orders its execution.[313] As a matter of fact, in cases of launching unlawful attacks the ICC have often charged the defendant(s) who ordered them as either direct perpetrators, co-perpetrators or indirect perpetrators (through another person); otherwise, command or superior responsibility may be applied as an alternative pursuant to Article 28 RS. [314]

From our position, we are unable to stablish a clear causal link between any specific attack and the allegedly excessive damage caused to the natural environment, which in turn precludes the identification of the possible direct perpetrator(s). In fact, it is not unusual that the reconstruction of the decision-making process underpinning unlawful attacks faces such hurdles for accessing to direct evidence, which is especially relevant in this investigation considering the previously proven unwillingness of Israel to cooperate with international authorities on the exchange of information.[315] This is why international criminal tribunals, including the ICC, have often resort to circumstantial evidence to reproduce the criminal context of war crimes.[316] That notwithstanding, as stated in the introduction, the scope of this work is limited *ratione personae* to the

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309 *Prosecutor v. Ahmad Al Faqi Al Mahdi*, 'Judgement and Sentence', 27 September 2016, ICC-01/12-01/15, par. 48.

310 Corn, *supra* n. 115, at 364-365.

311 Borrowing the interpretation of a direct perpetrator of attacking civilians, applying to "any use of artillery", as adjudicated in *Ntaganda*. See, *Prosecutor v. Bosco Ntaganda*, *supra* n. 46, ¶ 744, footnote 2300.

312 For instance, in *Ntaganda* the Court considered that the accused didn't order the attack in the sense of direct perpetration but as indirect co-perpetration because, even though he gave the orders, he wasn't present at the front and this formed part of his overall contribution to the commission of a broader set of crimes committed through a common plan. *Ibid*., paras. 743-744

313 *Prosecutor v. Jean-Pierre Bemba Gombo et al.*, *supra* n. 172, par. 77, where an order "reflects the strongest form of influence over another".

314 J. P. Pérez-León-Acevedo, 'The Challenging Prosecution of Unlawful Attacks as War Crimes at International Criminal Tribunals,' 26 *Michigan State International Law Review* (2018) 407–444, at 436 [doi: 10.17613/c5wme-jnm33].

315 *Ibid*., at 433-435.

316 *Ibid*., at 436; M. Klamberg, *Evidence in International Criminal Trials* (Brill Nijhoff, Leiden, 2013), at 408-409 [doi: 10.1163/9789004236523]. As previously noted, the evidentiary value of indicia will depend on whether the criminality of the act or omission was the only reasonable finding to be made from the facts. See *supra* n. 181.

warrants of arrest for Mr. Netanyahu and Mr. Gallant. Hence, it is not a matter of finding who may be considered direct perpetrator(s) but to assess the specific mode of liability applying to both accused. As to the only attack-related war crime for which both accused have been charged in this case, namely intentionally directing attacks against the civilian population, Pre-Trial Chamber I has found reasonable grounds to believe that they bear criminal responsibility as civilian superiors.[317] Despite every crime should be assessed separately in this regard, considering the similarities among attack-related war crimes, we will follow Pre-Trial Chamber I's view and analyse the accused's criminal responsibility in the same way. This does not mean that what has been so far addressed is pointless, since the base crime must have been committed by subordinates under their authority and control in any event, or attempted at the very least.[318]

Pursuant to Article 28(2) RS, three elements must be met in order to hold a non-military superior criminally responsible: (a) the superior either knew, or consciously disregarded information clearly indicating the commission of the crime; (b) the crime concerned activities that were within the effective responsibility and control of the superior; and (c) the superior failed to take all necessary and reasonable measures within their power to prevent or repress the crime. All three elements are informed by the superior-subordinate relationship enounced in the provision's *chapeau* and must be a consequence of the superior's failure to exercise control properly, which means that it is not enough to have a formal or *de jure* hierarchical relationship. It is needed that the superior had the material or *de facto* ability to exercise their authority over the subordinates, what is known as the effective control test.[319]

Regarding the first (a) element, the applying standard of fault for civilian superiors is either actual knowledge or the recklessness-based "consciously disregard", rather than the negligence-based "should have known" criterion for military or quasi-military commanders under Article 28(1) RS.[320] While the meaning of "knowledge" is the same as under Article 30(3), consciously disregarding something implies an active conduct to ignore it. In other words, the accused must have "chose[n] not to consider or act upon" the information which would have clearly put them on notice of the crimes.[321] In essence, to held a civilian superior criminally responsible for consciously disregarding information about the crimes of their subordinates it is in necessary that: (1) information clearly indicating a significant risk that the crime was being committed or about to be committed existed; (2) it was available to the superior; and (3) while aware of that

317 See *supra* n. 2.

318 V. Nerlich, 'Superior Responsibility under Article 28 ICC Statute: For What Exactly Is the Superior Held Responsible?', 5 *Journal of International Criminal Justice* (2007), 665–682, at 669 [doi: 10.1093/jicj/mqm033].

319 K. Ambos, 'Superior Responsibility,' in A. Cassese, P. Gaeta, and J. R.W.D. Jones(eds.), supra n. 27, 823; O. Triffterer and R. Arnold, 'Article 28. Responsibility of Commanders and Other Superiors', in O. Triffterer and K. Ambos (eds.), *supra* n. 27, 1056.

320 Ambos, *ibid.* at 870.

321 J. A. Williamson, 'Some Considerations on Command Responsibility and Criminal Liability', 90 *International Review of the Red Cross* (2008), 303–317, at 308 [doi: 10.1017/S1816383108000349]. As Vetter observed, this results in an easier defence for the accused and a higher burden of proof for the prosecution compared against military commanders' responsibility. See, G. R. Vetter, 'Command Responsibility of Non-Military Superiors in the International Criminal Court', 25 *The Yale Journal of International Law* (2000): 89–143, at 124.

information, they actively ignored it.[322] Although in both cases knowledge and conscious disregard the *mens rea* must not be presumed, it may be established through circumstantial evidence as well.[323] Furthermore, it is not required that the superior be aware of the exact details of the base crime.[324] For instance, in *Bemba*, ICC Trial Chamber III considered, among other factors, the notoriety of the illegal acts and whether they were covered by the media as possible indicia of the superior's knowledge. Nevertheless, they must be personally aware of that notoriety, which cannot be inferred from the general public's knowledge, and they must have taken "some kind of action" concerning that information.[325]

According to the second (b) element, the effective authority of the superior must govern not only the relationship with their subordinates but their activities as well. In the absence of any pronouncement on this matter at the ICC, the literature understands that these activities are deemed to be under the control of the superior only when they are undertaken at work or during other work-related duties.[326]

Finally, the third (c) element shares with military commanders' responsibility pursuant to Article 28(1)(b) RS the failure to "take all necessary and reasonable measures". Which means that as long as they acted reasonably, the conduct will not be criminal.[327] This element stems from the duty of any superior, whether military or non-military, to ensure the lawfulness of their subordinates' conduct under customary international law.[328] While the case law of the different international criminal tribunals has confirmed that the measures at stake must be analysed on a case-by-case basis, depending on the powers of the superior and the specific circumstances of the situation, it is generally agreed that they must be feasible and practical, i.e. within their power and truly helping the purpose to prevent or repress.[329] According to Triffterer and Arnold, among the reasonable measures that can be expected from civilian superiors to prevent or repress the misconduct of their subordinates, a first step is the dismissal of the agent involved or requiring the competent authority to do so.[330]

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322 Ambos, *supra* n. 319, at 870; Triffterer and Arnold, *supra* n. 319, at 1102-1103.

323 *Prosecutor v. Zejnil Delalić et al.*, 'Judgement', 16 November 1998, IT-96-21-T, par. 386. See also, Ambos, *ibid.*, at 863 and 870; Triffterer and Arnold, *ibid*, at 1083.

324 Nerlich, *supra* n. 318, at 672.

325 *Prosecutor v. Jean-Pierre Bemba Gombo et al.*, *supra* n. 172, paras. 192-194.

326 Ambos, *supra* n. 319, at 858; Triffterer and Arnold, supra n. 319, at 1103.

327 D. Robinson, 'A Justification of Command Responsibility', 28 *Criminal Law Forum* (2017), 633-668, *passim* [doi: 10.1007/s10609-017-9323-x].

328 Amnesty International, 'Amicus Curiae Observations on Superior Responsibility Submitted pursuant to Rule 103 of the Rules of Procedure and Evidence', in *Prosecutor v. Jean-Pierre Bemba Gombo*, 20 April 2009, ICC-01/05-01/08, par. 18.

329 M. M. Bradley and A. de Beer, '"All Necessary and Reasonable Measures" The Bemba Case and the Threshold for Command Responsibility', 20 *International Criminal Law Review* (April 23 2020), 163 213, at 212 [doi: 10.1163/15718123-02002004]; Williamson, *supra* n. 314, at 309-311. As a matter of fact, the ICC Appeals Chamber in Bemba reversed the trial judgement based on a re-evaluation of what, in that case, were considered necessary and reasonable measures, which ouch to obey to "the operational realities on the ground at the time". See, *Prosecutor v. Jean-Pierre Bemba Gombo*, 'Judgment on the appeal of Mr Jean-Pierre Bemba Gombo against Trial Chamber III's "Judgment pursuant to Article 74 of the Statute"', 8 June 2018, ICC-01/05-01/08 A, par. 170.

330 Triffterer and Arnold, supra n. 312, at 1103.

(2) Evidence

(a) Superior-subordinate relationship

On this preliminary matter, Article 2 of the Israeli Basic-law on the Military of 1976, stablishes that the Minister of Defence Mr. Gallant at the time of the events occurred will be in charge of the army on behalf of the government, the head of which is Mr. Netanyahu at the time of writing.[331] In turn, Article 3 provides that the supreme commander of the armed forces (the Chief of Staff), who will be appointed by the Government under recommendation of the Minister of Defence, will be subject to the authority of the former and subordinate to the latter. In light of the former, the formal strand of the Netanyahu-Gallant relationship with the military becomes apparent.

Concerning the material authority of the superiors to exercise effective control, both the ICTY and the ICC have affirmed that it may be derived from their capacity to issue orders and instructions.[332] In this regard, it may be helpful to recall that Mr. Gallant ordered the siege of Gaza with the approval of the government, as well as other instructions such as the implementation of the Hannibal Directive.[333] In turn, Mr. Gallant was removed from his charge as Minister of Defence by Prime Minister Netanyahu, demonstrating his actual authority over the former.[334] Moreover, a recent letter addressed to Mr. Netanyahu himself, and both the current Minister of Defence and head of the military, signed by members of the IDF, denounces that "the government is issuing 'clearly illegal' orders".[335] This does not serve merely to indicate their overall control over the IDF but may point to their acquaintance about the criminal nature of their orders.

(b) The superior either knew, or consciously disregarded information which clearly indicated such crimes

On the notoriety of the crimes as possible indicia of the accused's knowledge, back in December 2023, UN General Assembly already expressed grave concern about the extensive destruction by Israel of agricultural land and vital infrastructure such as water wells in the Gaza Strip, as well as their negative impact on the environment. Accordingly, it demanded and called upon Israel to cease the exploitation of the Palestinian natural resources and to halt every action damaging both the environment

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331 Originally passed by the Knesset on the 29th Adar Bet, 5736 (31 March 1976) and published in Sefer Ha-Chukkim No. 806 of the 9th Nisan, 5736 (9 April 1976), p. 154. Unofficial English version as amended in 2022 available here.

332 *Prosecutor v. Bosco Ntaganda*, *supra* n. 46, par. 120; *Prosecutor v. Dario Kordić and Mario Čerkez*, 'Judgement', 26 February 2001, IT-95-14/2-T, par. 421; Prosecutor v. Blaškić, 'Judgement', 3 March 2000, IT-95-14-T, Judgement, par. 302.

333 'Former Israel Defence Minister Admits Issuing Orders to Attack Gaza, Kills Israeli Captives', *Middle East Monitor*, published 8 February 2025, accessed July 2025.

334 B. McKernan, "Benjamin Netanyahu Fires Defence Minister Yoav Gallant, Triggering Protests Across Israel," *The Guardian*, published 6 November 2024, accessed July 2025.

335 Harry Davies and Yuval Abraham, 'Israeli Army Officers Refuse to Serve in "Unnecessary, Eternal War" in Gaza', *The Guardian*, published 11 June 2025, accessed July 2025.

and vital infrastructure.[336] Echoing the former Resolution, and in view of the information analysed, the Special Committee to Investigate Israeli Practices Affecting the Human Rights of the Palestinian People and Other Arabs of the Occupied Territories considers Israeli authorities "to have been aware of the war's impact on Palestinians' right to a clean, healthy and sustainable environment", which is being impaired through, *inter alia*, the "immediate as well as the lasting and widespread impact of this [explosives-related] contamination".[337] The Committee concludes that "Israeli authorities did not use all means at their disposal to avoid […] causing significant environmental harm".[338]

On the other hand, there are numerous public declarations made by Israeli officials and authorities that call for the total erasing of the land, to destroy everything, and to private Gaza of life-supporting resources and infrastructure.[339] Along with the Israeli military's patterns of total disregard for both the scale and the scope of the attacks, these statements acknowledge at least implicitly the inevitable, underlying environmental destruction to be expected. Since the superiors need not to master every detail of the base crime, it would thus suffice to prove that they were aware of the likely excessive result. In this sense the scorched-earth-related statements below become especially relevant as it was with the *Al Bashir* case,[340] where among the evidence presented the Prosecutor referred to the accused's statement publicly commanding to "didn't want any villages or prisoners, only scorched earth".[341] Given that a scorched-earth policy is the military tactic consisting in destroying everything, specially environmental objects, within a given territory in order to deny the enemy any possible advantage, we consider that such declarations could indicate either knowledge or conscious disregard about the scale of the environmental damage that could be expected from the attacks, if not intent.[342]

Namely, on 4 November 2023, Israeli Brigadier General and former Deputy Head of the Coordinator of Government Activities in the Territories (COGAT), Yogev Bar-Sehshet, declared that "whoever returns here [the Gaza Strip] […] will find scorched earth. No houses, no agriculture, no nothing".[343] And on 7 April 2024, Sergeant Major of the 84th (Givati) Brigade, Rabbi Avrahim Zarbiv, noted that "wherever the IDF soldiers

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336 UNGA Res. 78/180, 21 December 2023, UN Doc. A/RES/78/170.

337 Report of the Special Committee, *supra* n. 233, paras. 33-39.

338 *Ibid.*, par. 39.

339 Many of these statements are collected in the Appendix of Forensic Architecture, *supra* n. 215, at 820-829. For other similar declarations may be useful to consult the Application instituting proceedings containing a request for provisional measures in *Application of the Convention on the prevention and punishment of the crime of genocide in the Gaza Strip (South Africa v. Israel)*, Application instituting proceedings, ICJ (2023), paras. 101-109.

340 Despite the differences on the charges, this case is relevant because the indictment was based on, similarly to the present, destroying the means of survival of the population, "including food, shelter, crops, livestock and, in particular wells and water pumps", which were contaminated. See, *Prosecutor v. Omar Hassan Ahmad Al Bashir*, 'Decision on the Prosecution's Application for a Warrant of Arrest against Omar Hassan Ahmad Al Bashir', 4 March 2009, ICC-02/05-01/09-3. par. 91.

341 *Situation in Darfur*, *supra* n. 39, par. 53.

342 See, e.g., K. Hulme, 'Armed Conflict, Wanton Ecological Devastation and Scorched Earth Policies: How the 1990-91 Gulf Conflict Revealed the Inadequacies of the Current Laws to Ensure Effective Protection and Preservation of the Natural Environment', 2 *Journal of Conflict and Security Law* (1997) 45 81 [doi: 10.1093/jcsl/2.1.45].

343 Forensic Architecture, *supra* n. 215, at 824.

passed through, the earth was left scorched".[344] Among other relevant declarations, on 8 October 2023, the IDF spokesperson Daniel Hagari stated that "while balancing accuracy with the scope of damage, right now we're focused on what causes maximum damage".[345]

Furthermore, the accused themselves have made several declarations exhorting for the total destruction of Gaza, pointing not only to their disregard about the scale of the inflicted damage – be it to civilians, civilian objects or the environment – but to their knowledge of the circumstances. Mr. Netanyahu has repeatedly urged the Israeli to remember the Old Testament's passage on Amalek, that is: "…totally destroy all that belongs to them. Do not spare them…". Moreover, on 8 October 2023, at the beginning of the military offensive, he announced that "[it] will continue with neither limitations nor respite until the objectives are achieved".[346] In turn, Mr. Gallant was even clearer when on 10 October 2023 announced that "there will be no electricity, no food, no water, no fuel, everything is closed". Addressing the IDF that same day, he added that "Gaza won't return to what it was before. We will eliminate everything". Similarly, on 13 December 2023 he highlighted "the work in the north of the Strip, with all its cost and pain, is of the kind that crushes the surrounding infrastructure […], it's all been erased".[347]

(c) The superior failed to take all necessary and reasonable measures… to prevent or repress… or to submit the matter to the competent authorities

The dismissal of Mr. Gallant by Mr. Netanyahu should not be considered neither a preventive nor a repressive measure for several reasons. Firstly, no criminal procedure has followed Mr. Gallant's dismissal, which appears to be a necessary step.[348] Secondly, despite being Netanyahu's subordinate, he was not the subordinate committing the crime but rather a superior having himself control over the military who allegedly did it. Thirdly, according to Mr. Netanyahu's own words, he was fired for other reasons, namely mistrust issues between them; and the crimes have allegedly continued after the appointment of the new Minister.[349] Furthermore, the recent change of the military Chief of Staff has been a consequence of the former chief's resignation rather than a disciplinary measure.[350]

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344 The Israeli Information Centre for Human Rights in the Occupied Territories, B'Tselem, believe this statement to be "evidence that forces on the ground are aware of the widespread destruction of objects necessary for survival". See, B'tselem, *Manufacturing Famine: Israel Is Commiting the War Crime of Starvation in the Gaza Strip* (2024), at 10.

345 B. McKernan and Q. Kierszenbaum, "'We're Focused on Maximum Damage': Ground Offensive into Gaza Seems Imminent", *The Guardian*, published 10 October 2023, accessed July 2025.

346 See, respectively, *South Africa v. Israel*, *supra* n. 339, at 142, par. 101; Forensic Architecture, *supra* n. 215, at 820.

347 See, respectively, Fabian, supra n. 212; *South Africa v. Israel*, *ibid.*; Forensic Architecture, *ibid.*, at 825.

348 Ambos, *supra* n. 319, at 862-863.

349 McKernan, *supra* n. 334.

350 E. Fabian, 'IDF Chief Halevi Announces He Will Resign on March 6, Cites "My Responsibility for the Failure of the IDF on October 7"', *The Times of Israel*, published 21 January 2025, accessed July 2025. Whether voluntary or forced, the resignation was in any case due to the IDF failure to prevent the 7 October Hamas' attack, not for the alleged commission of any crime by his subordinates.

On a different note, according to Israel's Military Advocate General (MAG)[351] since the beginning of the conflict in October 2023 there have been initiated "74 criminal investigations regarding incidents that raised suspicion of criminal misconduct" among IDF personnel.[352] However, accountability for these incidents are rear, exculpatory explanations too vague, and only a few privates (foot soldiers) have been dismissed by June 2024.[353] In fact, Israeli Military's system of justice has repeatedly been accused in the past of lack of transparency, impartiality and adherence to international law standards. Its focus on low-ranking soldiers and its preference for disciplinary measures rather than criminal prosecution helps to perpetuate impunity rather than fight it.[354] It is reasonable to believe that if these investigations were any serious, Israel would have challenged the admissibility of the case pursuant to Articles 17(1)(a) and 18(2) RS. Conversely, showing the apparent connivance between the different powers of the State and its government, represented by the accused Prime Minister Mr. Netanyahu, they have limited themselves to challenge the jurisdiction of the Court pursuant to Article 19(2), and to request an Article 18(1) notice on the investigation.[355]

Meanwhile, in the domestic sphere the Knesset is debating a bill to criminalise any cooperation with the ICC, while defeating another seeking to establish a commission of inquiry into the 7th October.[356] This ban joins the veto already in place against any UN or international independent commission, which the Human Rights Council had demanded to cease.[357] Consequently, it may be affirmed not only that no reasonable measures have been taken to prevent the alleged commission of crimes by their subordinates, but that formal efforts are being put in place to hinder information disclosure. The alleged processes of inquiry opened by the MAG to repress and/or punish the alleged crimes are both insufficient and unreliable at best.

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351 The MAG is appointed by the Minister of Defence upon recommendation of the military Chief of Staff. Militarily, MAG is subordinate in rank to the latter, and civilly or professionally to the Attorney-General, the head of the legal system of the executive branch of the Israeli government. See, J. Turkel et al. (Turkel Commission), 'Israel's Mechanism for Examining and Investigating Complaints and Claims of Violations of the Laws of Armed Conflicts According to International Law. Second Report', 2013, at 281, par. 18.

352 MAG's Corps, 'Addressing Alleged Misconduct in the Context of the War in Gaza', published 24 February 2024, accessed July 2025.

353 J. Frankel and J. Jeffery, 'The Israeli Army Says It Investigates Itself. Where Do Those Investigations Stand?', *Associated Press*, published 3 June 2024, accessed July 2025.

354 See, e.g., B'tselem, *The Occupation's Fig Leaf: Israel's Military Law Enforcement System as a Whitewash Mechanism* (2016); International Commission of Jurists, *Perpetuating Impunity: Israel's Failure to Ensure Accountability for Violations of International Law in the Occupied Palestinian Territory* (2022).

355 Note that, after the Appeals' Chamber partial revision of Pre-Trial Chamber I's decision on the jurisdictional challenge, Israel has requested to withdraw, vacate or declare the warrants of no force or effect, and to suspend the investigation. However, Pre-Trial Chamber I has ruled that the request of Israel to suspend the investigation based on Article 19(7) RS has no grounds inasmuch this can only result from a challenge on admissibility, which Israel has not issued. See, *Situation in the State of Palestine*, 'Decision on the State of Israel's request to have arrest warrants withdrawn, vacated, or declared of no force or effect and to suspend the Prosecutor's investigation', 16 July 2025, ICC-01/18-457, paras. 31-33.

356 See, respectively, The Knesset, 'Approved in Preliminary Reading: Prohibition on Public Authorities and Bodies, Israeli Citizens and Residents, to Cooperate with the International Criminal Court in The Hague,' published 19 February 2025, accessed March 2025; S. Sokol, 'Coalition Defeats Bill Seeking to Form State Inquiry into Oct. 7 Failures', *The Times of Israel*, published 19 March 2025, accessed same day

357 HRC Res. 55/28, 16 April 2024, UN Doc. A/HRC/RES/55/28, paras. 15-16.

All things considered, it may be affirmed that there are reasonable grounds to believe that the accused, while exercising civilian control both *de facto* and *de jure* over the Israeli military scheme, were aware about the alleged commission of this and other crimes or, at the very least, consciously turned a blind eye on them and took no reasonable measures to either prevent, repress or punish them.

(E) CONCLUSIONS

In this paper we have analysed the elements of the war crime of excessive environmental damage through a thorough revision of the relevant literature and both ICTY and ICC case-law. The commentaries on Article 8(2)(b)(iv), second alternative, of the Rome Statute normally highlight the hurdles represented by the high, uncertain threshold of damage imposed and the difficulties of proving the *mens rea*. Indeed, not only the damage whether materialised or not must be widespread, long-term and severe but it has to be known ex ante by the alleged perpetrator, who additionally needs to conclude it to be clearly excessive in relation to the direct and overall military advantage anticipated. However, they usually overlook the fact that, as demanded by proportionality, the damage must be incidental, which means that the criminality of the act will depend on the target and the purpose of the attack. Hence, attacking a non-military environmental objective directly or attacking a non-environmental military objective with the intent to inflict environmental damage, even if secondary, would not, a priori, fall within the scope of Article 8(2)(b)(iv). We believe that this requirement, together with the definitional constraints of an attack, represent key challenges for prosecuting the crime that should not be overlooked. Fortunately, ICC judges are granted with different tools to overcome them.

First, although they may and most probably would do so rely on Additional Protocol I as a source of interpretation, they are not bound by it. In this regard, whereas the ICC have already adhered to the concept of attack thereto, it has not yet decided upon any case of widespread, long-term and severe environmental damage, which thus leaves room for a different, less stringent understanding of these terms. Second, the Martens Clause or the so-called "principle of ambituity" may allow the Court to take into account the cumulative effects of different attacks where individual ones do not reach the prohibited threshold in otherwise clearly unlawful cases. Third, the subjectiveness of the mental element is narrowed in instances where the alleged perpetrator's proportionality assessment is either unreasonable or absent in cases of clearly excessive damage, allowing the Court to infer "knowledge" from it. Moreover, the Court could embrace a more up-to-date environmental approach in balancing military interests against environmental values.

As it has been acknowledged, the acts of the Israeli military could be constitutive of several different crimes, or risk to be so at the very least. In fact, much of the evidence presented herein may well serve to point to the commission of, e.g., the war crimes of attacking civilians and/or civilian objects, and of starvation. However, this does not automatically exclude collateral environmental damage from the equation. It becomes clear from the evidence analysed that massive environmental damage has been inflicted upon the Palestinian people of Gaza, regardless of its qualification as incidental or intentional. Even though environmental damage could be punished as a means in other

crimes such as starvation, this would dilute the intrinsic value supposedly granted to the natural environment in Articles 35(3) and 55(1) of Additional Protocol I, and Article 8(2)(b)(iv), second alternative, of the Rome Statute, implying that any harm thereto not serving other criminal purpose would be held unpunished.

We may conclude that there are reasonable grounds to believe that, during the relevant time, the Israeli forces launched several disproportionate attacks in the knowledge that they would cause serious collateral environmental damage. Whereas it is doubtful that any of the attacks individually considered could meet the threshold of widespread, long-term and severe damage unless taken as a whole, there are reasonable grounds to believe that, considering the full military campaign, Israel's military either consciously disregarded its possible excessiveness or not even weighed it against the expected military advantage, which in most cases has turned to be vague and undefined. There are also reasonable grounds to believe that both accused, Mr. Netanyahu and Mr. Gallant, were either aware of the circumstances and the facts or consciously disregarded them, and that they did not took any reasonable measure to either prevent, repress or punish the commission of crimes by their subordinates. Despite few prospects for a successful prosecution, there are enough evidence to trigger an indictment on this count, which would enable the Court to engage directly with Article 8(2)(b)(iv) for the first time and clarify many of the uncertainties surrounding it, even if at the pre-trial stage. For the sake of legal certainty and symbolic justice at least. Finally, the impossibility to determine all the elements of the crime beyond any reasonable doubt is due more to the imprecision of the provision rather than to the facts themselves, which reveals the inadequacy of the current framework of environmental protection under international criminal law, specifically the Rome Statute. Reason why a reform, perhaps through the standalone criminalisation of ecocide, is necessary still.