

Research Paper

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Proportionality in the Conduct of Hostilities The Incidental Harm Side of the Assessment

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Summary

- Military operations are taking place with increasing frequency in densely populated areas. Such operations result in loss of life and harm to civilians, as well as damage to civilian objects, (including infrastructure providing essential services). In order to protect civilians, it is imperative that armed forces and groups comply with the rules of international humanitarian law on the conduct of hostilities, including the rule of proportionality.
- The rule of proportionality prohibits attacks which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated. This research paper analyses the key steps that belligerents must take to give effect to the rule, with a particular focus on one side of proportionality assessments – the expected incidental harm.
- Those undertaking proportionality assessments before or during an attack must consider whether the expected harm will be *caused* by the attack, and whether that harm could be *expected* (that is, was it reasonably foreseeable).
- For the purpose of proportionality assessments, injury to civilians includes disease, and there is no reason in principle to exclude mental harm, even though it is currently challenging to identify and quantify it. Damage to civilian objects includes damage to elements of the natural environment.
- Once the incidental harm to be considered has been identified, a value or weight must be assigned to it. This is then balanced against the value or weight of the military advantage anticipated from the attack to determine whether the harm would be excessive.
- In the determination of whether the expected incidental harm would be excessive compared to the anticipated military advantage, ‘excessive’ is a wide but not indeterminate standard.
- Belligerents should develop methodologies so that those planning and deciding attacks are provided with all necessary information on expected incidental harm, and to assist them in assigning weight to the incidental harm to be considered.
- If it becomes apparent that the rule of proportionality will be contravened, the attack in question must be cancelled or suspended.
- Clarification of the law is important in ensuring compliance with the rule of proportionality, but a culture of compliance within armed forces and groups, inculcated by their leaders, is also crucial.

1. Introduction

1. The rule of proportionality is the most apparent manifestation of the balance between military necessity and considerations of humanity that underpins international humanitarian law (IHL), sometimes also referred to as the law of armed conflict or 'LOAC'. As military operations are taking place with increasing frequency in densely populated areas, the rule, together with the obligations to take feasible precautions in attack and defence, has assumed ever greater significance for the protection of civilians.
2. The essence of the rule of proportionality is uncontroversial: in the words of Article 51(5)(b) of Additional Protocol I to the Geneva Conventions of 1949 ('AP I'),¹ belligerents must refrain from attacks 'which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated'. Determining precisely what falls within the two sides of the assessment, and how the two are to be balanced, is extremely complex as a matter of law and practice.
3. Attacks are carried out in extremely different situations, and the context in which an attack is conducted is critical when assessing its compliance with the law. Some attacks are the result of deliberate targeting processes, in which the expected incidental harm can be carefully assessed. Others rely on dynamic targeting in the heat of battle. Belligerents' resources and capacities to collect, collate and analyse intelligence and battlefield information also vary significantly. Despite these differences, the rule of proportionality and the obligation to take all feasible precautions apply to all attacks. What changes is *how* they are applied in practice. For example, what constitutes 'reasonably available' information for estimating expected incidental harm will vary significantly, as will the precautions that can be considered 'feasible'.
4. For the purpose of analysing one side of the proportionality assessment – 'expected incidental harm' – the International Law Programme at Chatham House convened a number of expert consultations. The consultations focused on incidental harm because urban warfare in a number of contexts has raised important questions as to what harm must be considered in proportionality assessments, and it was perceived that this dimension of the rule had received less attention to date. That said, the sections of this research paper that analyse the key steps in proportionality assessments and that discuss legal questions on implementation apply to the rule in its entirety.
5. The consultations, which included participation from military and government lawyers, representatives of humanitarian organizations and academics, discussed and analysed the constituent elements of incidental harm and their interplay with the 'anticipated military advantage' side of the assessment. This paper draws on those consultations, but does not necessarily reflect the view of each of the participants.

¹ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts of 8 June 1977.

6. The paper draws on the consultations, as well as on additional research discussions and a desk review of treaty texts, literature and case law. Military manuals proved of limited assistance because they largely replicate the language of Additional Protocol I or give examples of attacks that are so extreme in their violation of the rule of proportionality that they are of limited use in understanding how belligerents interpret the rule. Military doctrine is more useful, since it enters into details of how to comply with the rule. Frequently, however, it is set out in classified documents; it was thus only possible to consider the relevant military doctrine of a small number of states and intergovernmental organizations. It also proved extremely difficult to obtain details of actual practice: that is, attacks which belligerents consider as complying with or violating the rule of proportionality. Often this is classified information. Also, policy restrictions often impose lower thresholds of permissible incidental harm than that allowed by IHL.² Practice that adheres to stricter policy constraints, rather than to legal ones, is not relevant in understanding how belligerents interpret the law.
7. The paper also benefited from the extensive debate in academic writings on the rule of proportionality, and from two recent expert consultations: one conducted by the International Law Association (ILA);³ and the other convened by the International Committee of the Red Cross (ICRC) and Université Laval in June 2016.⁴ While the paper draws from this work, reference is made to academic writings only if support for a particular point cannot be found in publicly available state practice.
8. The paper aims to provide guidance to those conducting military operations; and to the wide range of stakeholders who play a role in promoting compliance with IHL, including government officials, legal practitioners, humanitarian organizations, advocacy groups and the media. It seeks to present existing law, and to provide possible clarification in areas of uncertainty, while noting different interpretations that have been put forward. Whenever possible and appropriate, it also recommends good practices to facilitate compliance with the rule. The final section of each chapter, entitled 'Conclusions and recommendations', summarizes the principal legal elements discussed in the chapter and, introduced in bold script, the relevant good practices.
9. The paper does not address the whole range of legal questions raised by the rule of proportionality, nor even by the incidental harm side of proportionality assessments. For example, the application of the rule to cyberattacks is not considered here. Cyberattacks

² For example, the North Atlantic Council mandated a 'zero civilian casualty allowance' for the 2010 NATO Operation Unified Protector in Libya. See, for example, Phinney, T. R. (2014), 'Reflections on Operation Unified Protector', *Joint Force Quarterly* 73, pp. 86–87, http://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-73/jfq-73_86-92_Phinney.pdf?ver=2014-03-26-120652-783. The August 2010 Tactical Directive of the International Security Assistance Force (ISAF) required commanders approving strikes to determine that no civilians are present, and prohibited attacks if it was impossible to assess the risk of civilian presence. See NATO (2010), 'Afghanistan: GENERAL PETRAEUS ISSUES UPDATED TACTICAL DIRECTIVE: Emphasizes Disciplined Use of Force', 4 August 2010, <https://reliefweb.int/report/afghanistan/afghanistan-general-petraeus-issues-updated-tactical-directive-emphasizes>.

³ International Law Association Study Group (2017), *The Conduct of Hostilities and International Humanitarian Law - Challenges of 21st Century Warfare*, Final Report ('ILA Study Group Report'), 25 June 2017, 'Part II: The Principle of Proportionality', <http://www.ila-hq.org/index.php/study-groups?study-groupsID=58>.

⁴ Gisel, L. (2018), *The Principle of Proportionality in the Rules Governing the Conduct of Hostilities under International Humanitarian Law*, international expert meeting report, ICRC and Université Laval ('ICRC/Laval Report'), <https://www.icrc.org/en/document/international-expert-meeting-report-principle-proportionality>.

conducted in the context of, and associated with, armed conflicts must comply with the rule of proportionality, but the application of the rule in such situations has recently been the subject of expert analysis elsewhere.⁵

10. The paper considers three sets of questions: first, the criteria of causation and foreseeability, the weight to be assigned to particular kinds of harm, and how to assess whether the expected incidental harm is excessive in relation to the anticipated military advantage; second, the different types of harm referred to in Additional Protocol I – i.e. civilian death or injury and damage to civilian objects; third, a number of legal questions raised by the implementation of the rule in practice. On these questions, the paper largely focuses on legal points on which there has been a divergence of views, or which have received only limited attention to date. In addition to IHL, other areas of public international law were considered to see if they could provide guidance on particular questions, such as causation and foreseeability.
11. In reading this paper, it should be borne in mind that greater clarity on the constituent elements of the rule of proportionality will enhance compliance with it. Respect for the entirety of IHL requires good-faith efforts of compliance by commanders and all operational decision-makers. This is especially true with regard to the rule of proportionality, because of the margin of judgment left to those deciding whether expected incidental harm would be excessive. But compliance does not, of course, depend exclusively on a better understanding of the law. Commanders bear a responsibility to develop a culture of compliance whereby units understand and embrace their obligations. How a commander implements the rule of proportionality (as well as the obligation to take all feasible precautions) will often serve as a touchstone of overall commitment to compliance with the law on the conduct of hostilities, and can substantially influence the exercise of initiative by subordinate leaders and personnel.

⁵ See, for example, Schmitt, M. (ed.) (2017), *Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations* ("Tallinn Manual 2.0").

2. Putting the Rule of Proportionality in Context

12. Before entering into the details of the rule of proportionality, some remarks are warranted to put the rule into the context of public international law, and more specifically within the framework of IHL.

2.1 Proportionality in international law

13. Proportionality is a concept found in numerous areas of public international law, including rules governing states' resort to the use of force, trade law and international human rights law, as well as IHL. It is a legal concept for striking an acceptable balance between competing legal interests. Although defined differently in different contexts, generally it requires the balancing of the adverse effects of actions against the objective sought.
14. In the different areas of international law that address the use of force, the formulations of proportionality are as follows. First, the law regulating resort to armed force – *ius ad bellum* – requires that force used in self-defence against the threat or occurrence of an armed attack must be proportionate to that attack and to the aim of averting or stopping the attack.⁶ Second, international human rights law specifies that lethal force may be used in law enforcement only if absolutely necessary to achieve a legitimate objective and in a manner strictly proportionate to the achievement of that objective.⁷ Finally, proportionality in the rules of IHL regulating the conduct of hostilities expressly prohibits attacks against a military objective if such attacks are expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects or a combination thereof which would be excessive in relation to the concrete and direct military advantage anticipated.⁸ This research paper focuses exclusively on this last form of proportionality.

2.2 The rule of proportionality in Additional Protocol I and under customary IHL

15. It was Additional Protocol I that first codified the rule of proportionality. The rule appears on three occasions: first, in Article 51(5)(b), as an example of an attack that is indiscriminate and therefore prohibited;⁹ and twice in Article 57 in relation to precautions in attack.¹⁰ The

⁶ See, for example, International Court of Justice (ICJ), *Military and Paramilitary Activities in and Against Nicaragua*, (*Nicaragua v. United States of America*), Judgment (Merits), 27 June 1986, [1986] ICJ Rep 14, para 176; and *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda)*, Judgment, ICJ Rep 2005, 168, para 304.

⁷ See, for example, Article 2(2) 1950 European Convention on Human Rights; and *McCann and Others v. The United Kingdom*, 27 September 1995, paras 148–149. See also, on the use of force more generally, Article 3 and commentary thereto of the Code of Conduct for Law Enforcement Officials, adopted by General Assembly resolution 34/169 of 17 December 1979.

⁸ Articles 51(5)(b) and 57(2)(b) AP I.

⁹ Some states that have not ratified Additional Protocol I do not consider that attacks that violate the rule of proportionality are indiscriminate as a matter of customary law.

prohibited attack is defined in identical terms on each occasion as an:

attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.

16. While there is general agreement that the rule forms part of customary law,¹¹ it is not clear whether the customary law rule is identical to the formulation in the Protocol. Some suggest that proportionality is broader in nature under customary law,¹² specific IHL protection regimes¹³ or a ‘general principle’ of the law of armed conflict.¹⁴ Pursuant to this approach, for example, incidental harm to *all* protected persons, and not just to civilians as mentioned in Additional Protocol I, must be taken into account.
17. This paper does not attempt to discuss the scope of the rule under customary law. It proceeds on the assumption that the formulation of Additional Protocol I reflects customary law applicable in international and non-international armed conflicts.¹⁵ While recognizing that not all states are parties to the Protocol, its references are therefore to the Protocol as an accurate formulation of the rule for the purposes of both treaty and customary law.
18. Neither common Article 3 of the Geneva Conventions nor Additional Protocol II includes the rule of proportionality. Nonetheless, as just stated, the rule is considered as reflecting customary IHL applicable in both international and non-international armed conflicts.¹⁶ However, as discussed in Section 4.1, the rules for determining who is a civilian differ according to whether the conflict is international or non-international, and this affects whose death or injury must be considered in proportionality assessments.
19. This paper does not specifically address international criminal liability for violating the rule. That said, the case law of criminal tribunals is taken into consideration where it offers guidance in interpreting the rule, while bearing in mind that the prohibition in Additional Protocol I is broader than the corresponding war crime under the Statute of the International Criminal

¹⁰ Articles 57(2)(a)(iii) and 57(2)(b) AP I.

¹¹ This is the conclusion of Rule 14 of the ICRC Customary Law Study (ICRC CLS), Doswald-Beck, L. and Henckaerts, J.-M. (2005), *Customary International Humanitarian Law*. This conclusion has not been disputed. See also Rule 14 of Harvard University Program on Humanitarian Policy and Conflict Research (2009), *Manual on International Law Applicable to Air and Missile Warfare* (‘MAMW’).

¹² See, for example, Bartels, R. (2013), ‘Dealing with the Principle of Proportionality in Armed Conflict in Retrospect: the Application of the Principle in International Criminal Trials’, *Israel Law Review*, 46(2), p. 217, at p. 304.

¹³ See, for example, ICRC (2106), *Commentary on the First Geneva Convention: Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field*, 2nd ed., paras 1353–1357, 1797 and 1987.

¹⁴ See, for example, Kleffner, J. (2018), ‘Military Collaterals and *Ius In Bello* Proportionality’, *Israel Yearbook on Human Rights*, Vol. 48, p. 43. See also ILA Study Group Report, ‘Part II: The Principle of Proportionality’, p. 27.

¹⁵ See Rule 14 ICRC CLS. Rule 14 MAMW reaches the same conclusion.

¹⁶ According to the ICRC, the customary law rule reflects the formulation in Additional Protocol I. See Rule 15 ICRC CLS. As regards treaty law, the Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices to the 1980 Convention on Certain Conventional Weapons as amended on 3 May 1996 is applicable in non-international armed conflicts; Article 3(8)(c) prohibits the use of the weapons covered by the Protocol in a manner that ‘may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated’. See also MAMW, Commentary to Rule 14, para 17.

Court, and that the limitations in the latter should not be read into the former.¹⁷

2.3 The rule of proportionality in the broader context of the rules of IHL regulating the conduct of hostilities

20. It is a tragic fact that armed conflict, and particularly urban warfare, inevitably causes loss of civilian lives, injury to civilians and damage to civilian objects, as well as disrupting services essential for the well-being of civilian populations. It is important to bear in mind that not every such death, injury or damage is necessarily a violation of the rule of proportionality. Nor is every death or injury to civilians, damage to civilian objects or disruption of services to be assessed through the lens of the rule of proportionality; there are, of course, other relevant rules of IHL that apply.
21. For the rule of proportionality to come into play, a number of conditions need to be met. First, the harm must be *incidental* – that is, it must occur in the course of an attack directed against a military objective. Attacks directed against civilians or civilian objects are prohibited by other rules of IHL. Second, the harm must be expected to arise as a result of ‘an attack’ as this term is understood in IHL. Not every use of force or military operation in an armed conflict constitutes ‘an attack’. Moreover, the rule requires weighing the incidental harm expected from a specific attack against the military advantage anticipated from that same attack. Third, only certain types of incidental harm are expressly referred to as falling within the scope of the rule: death or injury of civilians, and damage to civilian objects.
22. The rule of proportionality must not be considered in isolation. It forms part of a framework that aims to give effect to the general obligation in the conduct of military operations to take constant care to spare civilians and civilian objects. This framework includes the principle of distinction; prohibitions on directing attacks against civilians and civilian objects, and on indiscriminate attacks; the obligations relating to precautions in attack and against the effects of attacks; and rules on the protection of objects indispensable to the survival of the civilian population and of the environment. Each rule in this framework (verification, special protections, precautions in attack) feeds into the process for the application of the rule of proportionality in practice. Each rule also strikes a careful balance between considerations of humanity and military necessity, addresses a specific threat, and plays a particular role in this scheme. It is essential to respect this framework, and to recognize that not every adverse impact of hostilities on protected persons and objects falls within the scope of the rule of proportionality. The rule is not the sole provision affording protection; recourse must be had to the most appropriate rule, depending on the circumstances and the status of the persons concerned. Some other rules may, in fact, afford greater protection than that of

¹⁷ Under Article 8(2)(b)(iv) ICC Statute, ‘[i]ntentionally 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’ is a war crime in international armed conflicts (emphasis added).

proportionality.¹⁸

23. Compliance with the rule of proportionality is one in a series of steps that those planning or deciding an attack must take prior to launching and while executing an attack. The precise order in which belligerents take these steps may vary, but their essence does not. Belligerents must do everything feasible to verify that the object to be attacked is a military objective. They must take all feasible precautions in the choice of means and methods of attack to avoid and, in any event, minimize incidental harm. Finally, they must refrain from launching an attack that may be expected to cause incidental harm that would be excessive in relation to the concrete and direct military advantage anticipated.

2.4 The notion of ‘an attack as a whole’

24. The rule of proportionality requires weighing the military advantage anticipated from an attack, and the incidental harm expected from it, and assessing whether the latter is excessive in relation to the former. Understanding what constitutes ‘an attack’ for the purposes of the rule is therefore necessary to assess compliance with proportionality.
25. Article 49(1) AP I defines attacks as ‘acts of violence against the adversary, whether in offence or in defence’. While this definition does not necessarily reflect customary law, it is nevertheless a convenient point of departure.
26. States have emphasized that, for the purposes of proportionality, it is the military advantage anticipated from ‘the attack considered *as a whole* and not only from isolated parts thereof’ that must be considered.¹⁹ This is so even though such isolated or particular parts may constitute distinct ‘attacks’ as defined in IHL and, consequently, have to comply with other rules governing the conduct of hostilities, starting from the requirement that attacks be strictly limited to military objectives.²⁰
27. In determining what amounts to an ‘attack as a whole’ and, therefore, constitutes the frame of reference for conducting a proportionality assessment, consideration must be given to the *context* in which the act is conducted. If the military advantage anticipated from a single attack (as defined in Article 49 AP I) is not dependent on or affected by other acts, then the act should be considered an ‘attack as a whole’ for the purpose of proportionality assessments. If, on the other hand, a single attack is an element in a larger operation where other acts (which may, or

¹⁸ For example, displacement of civilians is not included in the incidental harm to be considered in proportionality assessments; but the forced displacement of civilians is prohibited. While temporary evacuations may be permissible if the security of the population or imperative military reasons so demand, the general prohibition nonetheless affords greater protection than the inclusion of displacement in incidental harm would have done, as it does not require balancing against expected military advantage.

¹⁹ Essentially identical declarations upon ratification of Additional Protocol I were also made by Australia, Belgium, Canada, France, Germany, Italy, the Netherlands, New Zealand, Spain and the UK. See https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/States.xsp?xp_viewStates=XPages_NORMStatesParties&xp_treatySelected=470. States that are not parties to Additional Protocol I have also made similar statements. For example, see U.S. Department of Defense (2016), *US Department of Defense Law of War Manual* (‘US DoD Manual’), December 2016, p. 264; and Israel Ministry of Foreign Affairs (2015), *The 2014 Gaza Conflict (7 July–26 August 2014): Factual and Legal Aspects*, May 2015, p. 181, <http://mfa.gov.il/ProtectiveEdge/Documents/2014GazaConflictFullReport.pdf>.

²⁰ Article 52 (2) AP I.

may not, amount to ‘attacks’) contribute to the military advantage, then the operation in its entirety should be considered the ‘attack as a whole’.²¹

28. Accordingly, a set of attacks against a particular target may constitute the ‘attack as a whole’ for conducting a proportionality assessment. Similarly, a set of attacks against different targets may also constitute the ‘attack as a whole’ if the military advantage anticipated from engaging one target is *dependent* – in part or in full – on engaging other targets. For example, the military advantage anticipated from attacking an anti-aircraft facility may depend in part on additional attacks being conducted against other anti-aircraft facilities in the area. In such a case, the frame of reference for conducting the proportionality assessment is the entire set of attacks against these anti-aircraft facilities, since this in fact constitutes ‘the attack as a whole’. Another example is the case of Operation Fortitude, during the Second World War, in which diversion attacks were conducted in the Pas de Calais to divert Axis attention away from Normandy, the designated landing site for Allied forces. If conducted today, the landing in Normandy would be the frame of reference for a proportionality assessment, since the military advantage anticipated from the diversion attacks could only be properly assessed if the military advantage of landing in Normandy is taken into account.
29. Whatever the precise parameters of ‘an attack as a whole’ in a given case, it is essential that the same interpretation and, thus, frame of reference be adopted for determining what falls within the two sides of the proportionality assessment: that is, in both the estimation of anticipated military advantage and that of expected incidental harm. Doing otherwise would undermine the balancing exercise at the heart of the rule.
30. Consideration of ‘the attack as a whole’ is the only situation in which separate ‘attacks’ under IHL are grouped together for the purpose of a proportionality assessment. It has nevertheless been suggested that in the case of a series of repeated attacks, ‘all of or most of them falling within the grey area between indisputable legality and unlawfulness’, it might be warranted to consider that the cumulative incidental harm of the attacks could be such as to render them unlawful.²² There has been little, if any, support²³ for this approach, which could lead to the counter-intuitive result that a series of attacks, not unlawful if considered individually, could violate the rule of proportionality if considered cumulatively. Rather than questions of proportionality, such situations of repeated high incidental harm may raise questions of whether the attacker was taking the precautions required by Article 57 AP I to minimize such harm.

²¹ This is the approach suggested by Bothe, Partsch and Solf, who note that ‘an attack’ refers to: the co-ordinated acts of violence against the adversary by a specific military formation engaged in a specific military operation, rather than to each act of violence of the individual combatants who are members of that formation. It does not, however, exclude acts of violence by an individual combatant such as a sniper acting alone, or a single bomber aircraft.

Bothe, M., Partsch, K. J. and Solf, W. A. (eds) (2013), *New Rules for Victims of Armed Conflicts*, 2nd ed., Leiden and Boston: Nijhoff, p. 329.

²² ICTY, *Prosecutor v Kupreškić*, Case No. IT-95-16-T, ICTY Trial Chamber, 14 January 2000, para 526.

²³ For criticism, see, for example, ICTY (2000), *Final Report to the Prosecutor of the Committee Established to Review the NATO Bombing Campaign against the Federal Republic of Yugoslavia*, p. 39, *International Legal Materials*, p. 1257, at p. 1272; and Zimmerman, A. (2007), ‘The Second Lebanon War’, *Max Planck Yearbook of United Nations Law*, Vol. 11, p. 99, at pp. 136–37.

2.5 Anticipated military advantage

31. Proportionality assessments require balancing the ‘concrete and direct’ military advantage anticipated from an attack with the incidental harm it is expected to cause. Although the focus of this paper is the ‘incidental harm’ side of the assessment, it is necessary nonetheless to outline briefly what is understood as constituting ‘concrete and direct military advantage’.²⁴
32. The advantage must be of a military nature. Political, economic or other non-military benefits are not relevant, nor is weakening the morale of the civilian population under the enemy’s control.²⁵ The expected advantage must be identifiable and quantifiable, and one that flows directly from the attack.²⁶ Advantages that are merely hypothetical or speculative are not included in proportionality assessments.
33. As is the case for expected incidental harm, in addition to identifying the military advantage to be considered in a proportionality assessment, it is necessary to assign a weight to it. One factor in this regard is the likelihood that the anticipated military advantage will actually occur.²⁷ The timeframe within which the anticipated military advantage is expected to occur is not determinative *per se*. However, it can be relevant, as a long period between an attack and the expected occurrence of the military advantage may decrease the likelihood of the advantage occurring and, therefore, the weight to be given to it.

2.6 Conclusions and recommendations

- i. The rule of proportionality in IHL forms part of a framework that aims to give effect to the general obligation in the conduct of military operations to take constant care to spare civilians and civilian objects. The rule must not be considered in isolation.
- ii. In determining whether a particular act of violence can of itself amount to an ‘attack as a whole’ for the purpose of the rule of proportionality and, therefore, constitute the entire frame of reference for conducting a proportionality assessment, consideration must be given to the *context* in which the act is conducted. If the anticipated military advantage is not dependent on or affected by other acts, then the act should be considered an ‘attack as a whole’ for the purpose of proportionality assessments. If it is an element in a larger operation in which other acts contribute to the military advantage – for example, coordinated air attacks on a particular target or set of interdependent targets, or diversion attacks – then the operation in its entirety should be considered the ‘attack as a whole’.

²⁴ For a recent discussion, see ILA Study Group Report, ‘Part I: Military Objectives’.

²⁵ See, for example, MAMW, Commentary to Rule 1(w), para 4:

[m]ilitary advantage does not refer to advantage which is solely political, psychological, economic, financial, social, or moral in nature.

²⁶ See, for example, UK Ministry of Defence (2004), *The Manual of the Law of Armed Conflict* (‘UK Military Manual’), Section 5.33.3.

²⁷ In this regard see, for example, the ICTY Prosecutor in Gotovina, who noted that:

the ‘concrete and direct advantage anticipated’ is not the value of the target wholly in the abstract but rather its abstract value relative to the likelihood of in fact neutralizing or destroying the object.

The Prosecutor v Ante Gotovina, Ivan Čermak and Mladen Markač, Prosecution’s Public Redacted Final Trial Brief, 2 August 2010, para 549.

- iii. The same interpretation and, thus, frame of reference of ‘attack as a whole’ must be adopted for determining what falls within the two sides of the proportionality assessment.

3. Incidental Harm Expected to be Caused by the Attack: Key Steps in Proportionality Assessments

34. This chapter sets out the series of steps that need to be undertaken in proportionality assessments, with a particular focus on how incidental harm is to be taken into account. While these steps can be presented in a formulaic manner, neither expected incidental harm nor anticipated military advantage can be quantified with mathematical precision. But breaking down the proportionality assessment into its constituent parts is useful for analysing the elements and requirements for each step.
35. The rule of proportionality sets limits to the military advantage that must be considered – it must be ‘concrete and direct’. However, apart from identifying the *types* of harm and damage to be considered, discussed in Chapter 4, the rule does not set any parameters for incidental harm. The only specification is that the proportionality assessment be based on the harm that the attack ‘may be expected to cause’.
36. Section 3.1 of this Chapter considers the criteria of causation and foreseeability which are elicited from the phrase ‘expected to cause’, and puts forward a test for determining which expected incidental harm should be considered as caused by an attack and thus be included in proportionality assessments. Section 3.2 discusses the weight that should be attached to particular components of incidental harm, and Section 3.3 addresses the question of how to assess whether the expected incidental harm is ‘excessive’ in relation to the anticipated military advantage.

3.1 Causation and foreseeability

37. Two distinct issues must be considered in identifying the incidental harm to be taken into account in proportionality assessments: causation and foreseeability. Can the expected harm be considered as *caused* by the attack; and could that harm have been *expected* (that is, was it foreseeable) when the attack was launched? Some experts have suggested that the ‘remoteness’ of incidental harm from an attack may be a criterion for excluding it from proportionality assessments.²⁸ However, no explanation is given of what is understood by the term ‘remote’, nor how this criterion would set limits to the incidental harm to be considered. Accordingly, the approach adopted in this paper does not include a criterion of ‘remoteness’.
38. Additional Protocol I does not provide guidance on how to understand causation or foreseeability for the purposes of the rule of proportionality. Some help in interpreting the notions may be drawn from other areas of public international law. But it must be borne in mind that in other areas of law causation and foreseeability are generally considered *after the*

²⁸ See, for example, MAMW, Commentary to Rule 14, para 4.

event, at the stage of determining the existence of a wrongful act and awarding reparations. In proportionality assessments, on the other hand, the questions must be considered *before the event*, at the earlier stage of identifying the expected incidental harm to be balanced against the anticipated military advantage.

39. Also, because proportionality requires an *ex ante* assessment, the relationship between causation and foreseeability is extremely close. These nonetheless remain two distinct elements in the analysis and must be considered separately.
40. Provided these differences are borne in mind, the approach taken in other areas of international law can provide some useful guidance. International case law does not provide a clear and consistent analysis, but a two-step approach can nonetheless be discerned. The first step requires establishing ‘causation in fact’ between an action and a particular outcome. The second step – sometimes referred to as ‘scope of responsibility’ – sets limits to the consequences of a violation for which an actor should be responsible.²⁹
41. The order in which causation and foreseeability are considered by those conducting proportionality assessments varies: some armed forces consider causation first and then address foreseeability, while others do the reverse. The order does not seem to have a material effect. This paper addresses causation first.

3.1.1 Causation

42. This element in the analysis requires establishing a causal relation between an attack and particular incidental harm. If the attack is expected to be the *sole* cause of the harm, determining causation is straightforward; so much so that in practice the proportionality analysis focuses solely on foreseeability. In such situations, incidental harm can be considered as caused by the attack if it is the outcome that was *expected to occur from the attack in the ordinary course of events*.³⁰
43. While the anticipated military advantage to be considered in proportionality assessments must be ‘direct’, there is no such requirement for incidental harm. Whether or not the harm occurs ‘directly’ – i.e. in one causal step – is irrelevant. Incidental harm is considered as caused by an attack whether it occurs in a single causal step, for example when an attack damages a civilian home; or as a result of a series of steps, for example when an attack damages an electricity generating station, which in turn prevents water purification systems from operating, causing death and disease of civilians.

²⁹ See, for example, Plakokefalos, I. (2015), ‘Causation in the Law of State Responsibility and the Problem of Overdetermination: In Search of Clarity’, *EJIL*, Vol. 26(2), p. 471. At the domestic level, the Principles of European Tort Law also take a two-step approach, which first identifies criteria for establishing causation and then lists factors for determining whether and to what extent damage may be attributed. European Tort Group (2005), *Principles of European Tort Law*, ‘Chapter 3 – Causation’, <http://www.egtl.org/>.

³⁰ This is the approach adopted in other areas of public international law. See, for example, Cheng, B. (1987), *General Principles of Law as Applied by International Courts and Tribunals*, 2nd ed., Cambridge: Grotius, p. 245. The ILC Articles on Responsibility of States for Internationally Wrongful Acts are not helpful in providing guidance on how to determine whether something is a consequence of a particular act. The Commission does not discuss how to establish whether a particular outcome has been *caused* by a wrongful act.

44. Establishing causation becomes more complicated when more than one actor is involved – this could be the opponent or some other actor that is not a party to the conflict, such as an intergovernmental organization that imposes sanctions. Setting aside questions of foreseeability (discussed in Section 3.1.2), the fact that a second actor has intervened does not automatically preclude the ensuing incidental harm from being considered as caused by the attack.
45. The incidental harm to be considered is that which would not occur *but for* the attack – with one limitation. Harm that results from the conduct of an actor other than the one carrying out the attack, and does not arise from the *physical effects* of the attack, is excluded.
46. By way of example, the death or injury of persons used as involuntary human shields is included in the incidental harm to be considered.³¹ Even though it is the conduct of the attacker’s opponent that has placed them at risk, the harm is a result of the *physical effects* of the attack. On the other hand, if the opponent were to execute people in retaliation for an attack, the harm would not be considered as caused by the attack as it was not caused by the *physical effects* of the attack.
47. Another example would be an attack expected to damage a water purification facility in a country that is under sanctions and that, consequently, cannot acquire the necessary spare parts to repair the damage. The incidental harm expected to occur is caused by the attack even though it is amplified by the effect of the sanctions. While the imposition of sanctions is the conduct of a different actor, the harm – i.e. the civilian deaths and disease – is caused by the *physical effects* of the attack and must therefore be considered.

3.1.2 Foreseeability

48. The second element in the analysis is foreseeability. Not only is it necessary for the incidental harm to be caused by the attack; its occurrence must also have been foreseeable at the time the attack was planned or launched.
49. In recognition that even if harm is caused by an act, responsibility for it cannot be limitless, other areas of public international law adopt criteria for limiting responsibility for the consequences of wrongful acts. As noted by the International Law Commission (ILC), these can include ‘directness’, ‘foreseeability’ or ‘proximity’.³²
50. As the entire proportionality assessment is prospective, and in view of the express reference to the *expected* incidental harm in the formulation in Additional Protocol I, foreseeability is the

³¹ For a discussion of the differing views on the position of human shields, see paras 95–98.

³² When discussing reparations for wrongful acts, the ILC pointed out that:

[c]ausality in fact is a necessary but not sufficient condition for reparation. There is a further element, associated with the exclusion of injury that is too ‘remote’ or ‘consequential’ to be the subject of reparation. In some cases the criterion of ‘directness’ may be used, in others ‘foreseeability’ or ‘proximity’.

ILC Articles on Responsibility of States for Internationally Wrongful Acts, para 10 of Commentary to Article 31.

most appropriate criterion for identifying the incidental harm to be taken into account.³³

3.1.2.1 Reasonable foreseeability

51. In the analysis in other areas of public international law, ‘foreseeability’ has been interpreted as referring to *reasonable* foreseeability: i.e. what *should* have been foreseen by the party responsible for the wrongful act at the time of the act. ‘Reasonable foreseeability’ injects an objective dimension. It refers to what judges consider that a reasonable person in the place of the wrongdoer *should* have foreseen.³⁴
52. The same approach applies to the identification of the harm to be considered in proportionality assessments.³⁵ It is that incidental harm that a reasonable person in the place of the person planning or launching the attack should have foreseen.³⁶
53. What can ‘reasonably’ be foreseen depends on the circumstances in which the attack is planned, decided or launched. This includes, in particular, the belligerent’s capabilities and available resources; whether the attack was part of a pre-planned operation or occurred during dynamic targeting; and the context in which the attack was planned and conducted, including factors such as the time available, terrain, weather, capabilities, available troops and enemy activity.
54. The information that the attacker has at its disposal plays a key role in foreseeing incidental harm. The extent of belligerents’ obligation to gather and analyse information is addressed – implicitly – in Article 57(2)(a)(i) AP I on precautions in attack. This requires those who plan or decide upon an attack to do ‘everything feasible’ to verify that an attack would not, among other things, violate the rule of proportionality. While the prohibition on conducting attacks that violate the rule is absolute, the obligation to verify sets a relative standard, requiring parties to do ‘everything feasible’ to verify. A number of states have indicated that they interpret the term ‘feasible’ as ‘that which is practically possible, taking into account all the circumstances ruling at the time, including humanitarian and military considerations’.³⁷

³³ The UK Military Manual, for example, notes that regard must also be had to the ‘foreseeable effects’ of attacks. ‘Foreseeability’ is also the criterion adopted in the Final Declaration of the Third Review Conference of the Convention on Certain Conventional Weapons. Preambular paragraph 11 of the Declaration notes ‘the foreseeable effects of explosive remnants of war on civilian populations as a factor to be considered in applying the international humanitarian law rules on proportionality in attack and precautions in attack’. There is also widespread support for this criterion in writings. See, for example, Bothe, Partsch and Solf (2013), *New Rules for Victims of Armed Conflicts*, p. 351; and ILA Study Group Report, p. 23.

³⁴ Cheng (1987), *General Principles of Law as Applied by International Courts and Tribunals*, pp. 249–51 and cases referred therein.

³⁵ This is the approach adopted by the ICRC. See, for example, Robinson, I. and Nohle, E. (2016), ‘Proportionality and precautions in attack: The reverberating effects of using explosive weapons in populated areas’, *International Review of the Red Cross*, 98(1), p. 107, at pp. 119–21.

³⁶ The ICTY has adopted the standard of the ‘reasonably well-informed person in the circumstances of the actual perpetrator’. See ICTY, *Prosecutor v Stanislav Galić*, Case No. IT-98-29, Judgment (Trial Chamber), 30 November 2003, para 58. The Trial Chamber referred to this standard in relation to the proportionality assessment as a whole; i.e. the question of whether the incidental harm could be considered excessive, and not in relation to the narrower and antecedent question considered here of what incidental harm a reasonable person in the place of a person planning or launching the attack should have foreseen. There does not appear to be any reason for not adopting the same approach to the narrower and antecedent step of identifying the incidental harm that could reasonably be expected to occur.

³⁷ Essentially identical declarations upon ratification of Additional Protocol I made by Algeria, Belgium, Canada, France, Germany, Ireland, Italy, the Netherlands, Spain and the UK. Israel, which is not a party to Additional Protocol I, takes the same position. See Israel Ministry of Foreign Affairs (2015), *The 2014 Gaza Conflict*, p. 169. This interpretation of feasibility was adopted by a number of Protocols to the 1980 Conventional Weapons Convention: Article 1(5) 1980 Protocol on

55. Declarations made by a number of states when ratifying Additional Protocol I provide additional indications of what can be considered ‘feasible’ measures to verify compliance with the rule of proportionality. These provide that those ‘responsible for planning, deciding upon, or executing attacks necessarily have to reach decisions on the basis of their assessment of the information *from all sources* which is *reasonably available* to them at the relevant time’³⁸ (emphasis added).
56. In assessing expected incidental harm, belligerents must thus rely on information that they have, or can reasonably be expected to have, from all sources in the circumstances.³⁹ In determining what is reasonable in the circumstances, once again a distinction can be drawn between the information that belligerents can reasonably be expected to acquire when planning operations in advance, and that which they can reasonably be expected to have when conducting dynamic targeting. Section 5.3, discusses the systems that belligerents should set in place for the collection and analysis of relevant information, and the kinds of information they should endeavour to acquire to inform proportionality assessments.
57. Relying on information that is ‘reasonably available’ is a minimum standard that belligerents must meet. Should a belligerent actually possess information over and above what it can reasonably be expected to have in the circumstances, it must make use of it.
58. These rules apply to all attacks. How the rules operate in practice varies with circumstances. The level of refinement of the analysis depends on what information a belligerent can reasonably be expected to have, and therefore on what incidental harm can be considered reasonably foreseeable; this is dependent upon the context in which an attack is planned or conducted.

3.1.2.2 Likelihood

59. When conducting proportionality assessments, not only must belligerents determine whether particular incidental harm is foreseeable, they must also assess how likely it is that it will actually occur. This is a different and additional question. ‘Foreseeability’ relates to whether

Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III) to the 1980 Convention on Certain Conventional Weapons; Article 3(10) 1996 Amended Mines Protocol; and 2003 Article 3(2) Protocol V on Explosive Remnants of War.

³⁸ Essentially identical declarations upon ratification of Additional Protocol I made by Australia, Ireland, Italy, New Zealand and the UK. Israel, which is not a party to Additional Protocol I, takes the same position. See Israel Ministry of Foreign Affairs (2015), *The 2014 Gaza Conflict*, p. 185.

³⁹ This is expressly noted, for example, in Australia Department of Defence (2009), *Australian Defence Doctrine Publication 3.14, Targeting*, para 3.43:

[f]or LOAC purposes, commanders and staff are entitled to base their decisions on the information available to them from all sources at the relevant time. It follows that commanders and their staff will be expected to draw on the available information and, to this end; the application of LOAC principles to targeting operations requires ongoing intelligence support.

Intelligence drives many LOAC decisions, including the assessment of whether or not a proposed target is a military objective, the estimation of the collateral damage effects expected from an attack, as well as the military advantage to be derived from an attack. The importance of the relationship between the intelligence and legal process (and between individual intelligence and legal officers) cannot be underestimated. Moreover, legal officers can be expected to make specific requests for intelligence data and assessments so as to perform their role and to inform their commander’s decisions.

particular incidental harm can be expected to occur. ‘Likelihood’ relates to the *probability* that it will do so. For example, while it is foreseeable that the use of cluster munitions may cause civilian injuries and death, the likelihood of it doing so will depend on the expected dud rate of the cluster sub-munitions and the location of the attack. The length of time between an attack and the expected harm, or the number of causal steps between one and the other, may also affect the likelihood of the harm’s occurrence.

60. Neither the word ‘expected’ in the formulation of the rule of proportionality in Additional Protocol I, nor the notion of ‘foreseeability’ or ‘reasonable foreseeability’, implies a particular degree of certainty that the incidental harm in question will actually occur. Likelihood is therefore relevant only to the weight to be assigned to the harm in proportionality assessments, as discussed in Section 3.2.

3.1.3 ‘Reverberating’ harm

61. Incidental harm can arise in a variety of ways. At its simplest, it can occur and manifest itself immediately upon an attack, as when shell fragments injure a civilian located in the proximity of a military objective. However, it can also occur immediately upon an attack but only manifest itself some time afterwards, as when toxic weapons cause disease that only becomes apparent months after the attack. Or it can occur long after the attack, as when a civilian is injured by unexploded cluster sub-munitions months or years after they were employed in an attack. The harm can occur in a single causal step, as in the examples above; or in a number of steps, as when an attack damages an object providing vital services to the civilian population, such as an electricity generation and distribution system, which in turn prevents water purification systems from operating, leading to an outbreak of waterborne diseases among the civilian population.
62. Different expressions have been used to refer to incidental harm that does not arise immediately or in one causal step, including ‘indirect’, ‘reverberating’, ‘knock-on’, ‘cascading’, or ‘second- or third-tier’ harm or effects. Questions have been raised as to whether – and, if so, to what extent – such harm should be considered in proportionality assessments.⁴⁰
63. Provided that the harm falls into one of the categories identified in Additional Protocol I, the geographic or temporal proximity of the harm to the attack is not determinative. Nor is the number of causal steps between the attack and the harm. There is nothing in the formulation of the rule of proportionality to suggest that these factors are determinative. While the anticipated military advantage to be considered in proportionality assessments must be ‘direct’, there is no such requirement for incidental harm. Instead, as discussed above, what matters is that the harm meets the criteria of causation and foreseeability. The incidental harm to be considered is that harm which would not occur *but for* the attack, but excluding harm that results from the conduct of another actor and is not due to the *physical effects* of the attack; and which was

⁴⁰ For example, the experts who elaborated the *Manual on Air and Missile Warfare* could not agree on whether and, if so, to what extent reverberating effects of attacks have to be factored into the proportionality calculations. MAWM, Commentary to Rule 14, para 4.

reasonably foreseeable at the time the attack was planned or launched, on the basis of information that the attacker had or could reasonably have been expected to have in the circumstances.

64. If the incidental harm meets these conditions, it must be considered in proportionality assessments. Factors such as the passage of time between the attack and the injury, or the number of causal steps between one and the other, may affect the likelihood of the harm occurring and thus the weight to be assigned to it.
65. Applying these criteria to the second and third hypothetical examples in paragraph 61, provided that when the attack was planned or launched it was reasonably foreseeable that the toxic weapons would cause disease among civilians, or that the cluster sub-munitions would fail to detonate upon impact, then the civilian deaths, disease or injury they are expected to cause fall within the scope of proportionality assessments. In the case of the toxic weapons, factors that can affect the weight to be assigned to such harm include the expected incidence of the disease – that is, what percentage of civilians exposed to the weapons can be expected to develop the disease. In the case of the cluster sub-munitions, considerations that could affect the weight assigned to the expected incidental harm include the expected failure rate of the sub-munitions and where they were used: whether it is in a remote area, in cultivated areas or close to population centres, as this will affect the number of people at risk of harm.
66. In the final example, provided each step in the chain of causation was reasonably foreseeable, the foreseeably ensuing disease and deaths fall within the scope of proportionality assessments. Considerations that could affect the weight to be assigned to the initial damage to the electricity-generating facilities could include ‘aggravating’ factors, such as the impossibility of acquiring parts to repair the damage.
67. Those planning an attack must base their assessments on the incidental harm that can be reasonably foreseen. Measures that can be taken to repair the damage that an attack is expected to cause may be taken into account to reduce expected reverberating harm, if it is reasonably foreseeable that they will be taken. The weight to be assigned to such measures depends on a number of factors, including, most notably, the likelihood of their being taken. The dynamic and frequently unpredictable nature of military operations means that, although mitigating measures *may* be taken into account, in many situations, even if reasonably foreseeable on the basis of reliable intelligence, they cannot be given significant weight in proportionality assessments.⁴¹
68. This is the case, for example, for measures that a party planning an attack could take to repair expected damage to infrastructure, should it subsequently gain control of the infrastructure and thus be in a position to repair it. Even though it may be planning in good faith to take such measures, military operations are generally too unpredictable for the possibility of conducting such repairs to carry significant weight in reducing the expected reverberating harm.

⁴¹ See, for example, the discussions at the ICRC/Laval meeting, where many experts considered that such measures were ‘too speculative’ to affect proportionality assessments. ICRC/Laval Report, pp. 49–51.

69. Similarly, relief that may be provided by humanitarian agencies to reduce the reverberating harm is too speculative to be assigned any meaningful weight. Moreover, there is something counter-intuitive and perverse about relying on the expectation that humanitarian action will be carried out as justification for causing more incidental harm.

3.2 Weight

70. Once the incidental harm to be considered in a proportionality assessment has been identified, a value or weight must be assigned to it. This is then balanced against the value or weight of the military advantage anticipated from the attack to determine whether the harm would be excessive.

71. Assigning weight to particular harm enables belligerents to take into account a range of factors and considerations. These include, for example, the likelihood that the harm in question will occur. The lower the likelihood, the less weight is to be given to the harm.⁴² Other factors include the severity of the expected harm and the cultural value of civilian objects, sites or places of worship that may be damaged by the attack in question.⁴³

72. Assigning weight to different types of harm is also a means of giving consideration to the specific context in which an attack will take place. For example, if previous attacks have damaged water treatment facilities, any further damage will be more significant than if the facilities had been intact. As discussed in Chapter 5, belligerents must do what is feasible to monitor the battlefield and update the basis on which proportionality assessments are conducted to take changes into account.

73. As far as civilian objects are concerned, in view of the aim of IHL to spare civilians from the effects of hostilities, greater weight should be assigned to those objects whose damage or destruction will have the most severe effects on civilians.⁴⁴

74. Assigning weight to different types of incidental harm also allows consideration to be given to some of the adverse effects of attacks on civilians that do not fall within the scope of incidental harm. For example, displacement of civilians does not constitute incidental harm *per se*. However, the fact that displacement is likely to occur as a result of an attack expected to destroy civilian homes affects the weight to be given to that destruction. Their destruction should be assigned greater weight than that of business premises, for example.

⁴² This was highlighted by the Prosecutor in *The Prosecutor v Ante Gotovina, et al.*, Prosecution's Public Redacted Final Trial Brief, 2 August 2010, para 549:

[t]he 'concrete and direct advantage anticipated' is not the value of the target wholly in the abstract but rather its abstract value relative to the likelihood of in fact neutralizing or destroying the object. Similarly, the weight of the collateral damage on the other side of the equation is relative to its certainty or likelihood.

⁴³ O'Keefe, R., Péron, C., Musayev, T. and Ferrari, G. (2016), *Protection of Cultural Property Military Manual* ('Cultural Property Military Manual'), UNESCO, para 114.

⁴⁴ See discussion at paras 149–152.

3.3 Excessive incidental harm

75. The rule of proportionality prohibits attacks expected to cause incidental harm that would be 'excessive' in relation to the anticipated concrete and direct military advantage. The rule does not use the term 'disproportionate' – nor, of course, 'proportionate'.⁴⁵
76. The Statute of the International Criminal Court ('ICC Statute') includes a war crime related to the rule of proportionality. The crime is limited to those attacks in which the expected incidental harm would be 'clearly excessive' in relation to the anticipated military advantage.⁴⁶ This is not the wording of Additional Protocol I, and it does not affect the scope of the underlying rule.⁴⁷
77. Neither Additional Protocol I nor military manuals provide guidance on how to interpret the notion of what is 'excessive'. There is, however, no indication that the imbalance between expected incidental harm and military necessity needs to be significant for the rule to be violated.
78. Determining whether the incidental harm expected to be caused by an attack would be excessive in relation to the concrete and direct military advantage anticipated is probably the most challenging aspect of the application of the rule of proportionality in practice. It requires valuing and comparing two incommensurable factors: military advantage and incidental harm. This said, proportionality in other areas of law frequently requires this type of assessment. For example, in human rights law proportionality can require balancing restrictions of certain rights with considerations of national security.⁴⁸ Moreover, it is an assessment that military commanders are constantly undertaking, so while it may be difficult to attempt to set parameters for making the determination, it is not an impossible determination to make in practice.
79. When considering potential individual criminal responsibility for attacks that violate the rule of proportionality, the International Criminal Tribunal for the former Yugoslavia (ICTY) has held

⁴⁵ The original draft of the rule drawn up by the ICRC for the negotiations of Additional Protocol I used the term 'proportionate'. This was unacceptable to some states, and was replaced by the expression 'excessive', which was adopted in the Protocol. ILA Study Group Report, 'Part II: The Principle of Proportionality', p. 33; and Kalshoven, F. (1978), 'Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts: The Diplomatic Conference, Geneva, 1974 – 1977', *Netherlands Yearbook of International Law*, Vol. 9, December 1978, p. 107, at p. 117.

⁴⁶ Article 8(2)(b)(iv) ICC Statute defines the war crime as:

[i]ntentionally 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.

Note that the corresponding grave breach in Article 85(3)(b) AP I reflects the rule in the Protocol on this point, and refers to 'excessive' incidental harm:

(b) launching an indiscriminate attack affecting the civilian population or civilian objects in the knowledge that such attack will cause excessive loss of life, injury to civilians or damage to civilian objects, as defined in Article 57, paragraph 2 (a) (iii).

⁴⁷ This is recognized in the Statute of the ICC; Article 10 provides that:

[n]othing in this Part [which includes Article 8 on war crimes] shall be interpreted as limiting or prejudicing in any way existing or developing rules of international law for purposes other than this Statute.

See also ILA Study Group Report, 'Part I: Military Objectives', p. 18.

⁴⁸ For example, Article 8(2) of the European Convention on Human Rights prohibits interference with the right to respect for private and family life, home and correspondence, except such as is in accordance with the law and is necessary in a democratic society *inter alia* in the interests of national security.

that it is necessary to determine whether ‘a reasonably well-informed person in the circumstances of the actual perpetrator making reasonable use of the information available to him or her, could have expected excessive civilian casualties to result from the attack’.⁴⁹ This approach has been refined by replacing the notion of reasonable ‘person’ with that of reasonable ‘commander’.⁵⁰

80. Bearing in mind that these cases concerned individual criminal responsibility, the reference to a ‘reasonable’ military commander can nonetheless provide guidance on the implementation of the rule of proportionality more generally. The reference to reasonableness resonates with the – limited – guidance provided by commentaries and manuals on how the determination is to be made.⁵¹
81. In certain situations it is evident that the expected incidental harm will be excessive in relation to the military advantage, and in others it is evident that it will not be. To use some examples referred to in military manuals, bombing an isolated fuel tanker in the middle of a densely populated city would be excessive,⁵² while an airstrike against an ammunition depot beside a farmer ploughing a field would not be.⁵³ ‘Excessive’ is a wide but not indeterminate standard. Provided they do what is required to collect information on which to base their assessment, and conduct the assessment in good faith and in a manner that is reasonable, belligerents have ‘a fairly broad margin of judgment’,⁵⁴ in the words of the ICRC Commentary to the Additional Protocols of 1977, to determine whether the expected incidental harm would be excessive.
82. To date, very few proceedings before international or national courts have addressed the rule of proportionality. The few cases to have done so have been prosecutions, and thus instances in which the courts have had to consider whether the expected incidental harm was *clearly* excessive in relation to the anticipated military advantage. They are briefly referred to here for the sake of completeness, but do not provide meaningful guidance on how the notion of ‘excessive’ should be interpreted.

⁴⁹ ICTY, *Prosecutor v Stanislav Galić*, Case No. IT-98-29, Judgment (Trial Chamber), 30 November 2003, para 58.

⁵⁰ See, for example, Israel Ministry of Foreign Affairs (2015), *The 2014 Gaza Conflict*, para 317. The 2000 *Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia* had already referred to the ‘reasonable military commander’, para 50. See <http://www.icty.org/x/file/Press/nato061300.pdf>.

⁵¹ For example, in the US, *The Commander’s Handbook on the Law of Naval Operations* (2007) notes that ‘[i]n each instance, the commander must determine whether the anticipated incidental injuries and collateral damage would be excessive, on the basis of an honest and reasonable estimate of the facts available to the commander at the time’ (emphasis added), para 8.3.1. According to the ICRC Commentary, the assessment ‘must above all be a question of common sense and good faith’, Sandoz, Y., Swinarski, C. and Zimmermann, B. (eds) (1987), *The Commentary on the Additional Protocols of 8 June 1977* (‘ICRC Commentary to the APs’), para 2208. Bothe, Partsch and Solf conclude that ‘the best that can be expected of the decision maker is that he act competently and honestly’. Bothe, Partsch and Solf (2013), *New Rules for Victims of Armed Conflicts*, p. 351.

⁵² Le Ministère de la Défense Belgique (2009), *Droit des Conflits Armés; Manuel du Cours pour Conseiller en Droit des Conflits Armés*, Vol. VI, p. 14. This example seems to make implicit assumptions about relatively low military advantage and relatively high incidental harm. It should not be taken to suggest that the circumstances it describes would inevitably violate the rule of proportionality: an assessment of proportionality depends on the particular facts of a situation and must be conducted on a case-by-case basis.

⁵³ Canada (2001), *Joint Doctrine Manual: Law of Armed Conflict, at the Operational and Tactical Levels*, B-GJ-005-104/FP-021, para 204.6.

⁵⁴ ICRC Commentary to the APs, para 2210.

83. At the ICTY, the court that has considered the issue most frequently under international criminal law, various chambers have addressed the rule of proportionality, contributing to the clarification of the rule⁵⁵ and affirming its customary status.⁵⁶ However, since serious violations of the rule were treated by the ICTY as underlying evidence of ‘unlawful attacks’ (i.e. attacks directed against civilians or civilian objects), only a few decisions considered whether the rule itself was violated in the particular case. Some chambers considered an attack to have been ‘disproportionate’ or ‘excessive’, but did not explain how they reached this conclusion.⁵⁷ Of the few instances in which proportionality was addressed in detail, the trial chambers in some cases concluded that the expected incidental harm was excessive. However, the assessment should not have been conducted at all in these cases, since the attacks in question were not actually directed at a military objective.⁵⁸ Other cases were overturned on appeal.⁵⁹ In these latter cases, the ICTY Appeals Chamber either expressly stated that the trial chamber’s analysis of proportionality was flawed⁶⁰ or did not specifically address proportionality,⁶¹ thus leaving

⁵⁵ See, for example, *Prosecutor v Stanislav Galić*, Trial Chamber above; ICTY, *Prosecutor v Stanislav Galić*, IT-98-29-A, Judgment (Appeals Chamber), 30 November 2006, paras 190–92; ICTY, *Prosecutor v Kupreškić et al.*, IT-95-16-T, Judgment (Trial Chamber), 14 January 2000, para 524; and ICTY, *Prosecutor v Martić*, IT-95-11-R61, Decision (Trial Chamber), 8 March 1996.

⁵⁶ See for example, ICTY, *Prosecutor v Galić*, IT-98-29-T, Judgment (Trial Chamber), 5 December 2003, paras 57–58.

⁵⁷ For example, ICTY, *Prosecutor v Blaškić*, IT-95-14-T, Judgment (Trial Chamber), 3 March 2000 (*Blaškić* Trial Judgement), para 651; ICTY, *Prosecutor v Milutinović et al.*, IT-05-87-T, Judgement (Trial Chamber), 26 February 2009, para 920.

⁵⁸ For example, in *Galić*, the ICTY Trial Chamber considered an attack that hit a parking lot where a football match was being played. Witness statements gave differing estimates of the number of military personnel present, which varied from 20 to 50 per cent of the players and the spectators. The Trial Chamber found that ‘[a]lthough the number of soldiers present at the game was significant, an attack on a crowd of approximately 200 people, including numerous children, would clearly be expected to cause incidental loss of life and injuries to civilians excessive in relation to the direct and concrete military advantage anticipated’. ICTY, *Prosecutor v Galić*, IT-98-29-T, Judgment (Trial Chamber), 5 December 2003, para 387. The *Mladic* trial judgment reached a similar conclusion about the same incident. ICTY, *Prosecutor v Ratko Mladic*, IT-09-92-T, Judgment (Trial Chamber), 22 November 2017, para 3199. It should be noted, however, that the Trial Chamber also held that it was not apparent that the attacking forces knew that there were soldiers in the crowd, and that they could not see the location that was targeted (*ibid.*). Without a military objective being targeted, the attack would be indiscriminate *per se* and no assessment of the expected incidental harm was necessary.

⁵⁹ In *Gotovina et al.*, the Trial Chamber considered an attack against an apartment where Milan Martić, the former president of the self-proclaimed Republic of Serbian Krajina, was believed to be present. Both the apartment building and an area marked ‘R’ against which a second attack was carried out were in predominantly civilian residential areas. At the times of the attacks, civilians could have reasonably been expected to be present on the streets near Martić’s apartment and in area R. The Trial Chamber found that firing at Martić’s apartment could disrupt his ability to move, communicate and in command, and so offered a definite military advantage. However, ‘firing twelve shells of 130 millimetres at Martić’s apartment and an unknown number of shells of the same calibre at the area [...] R, from a distance of approximately 25 kilometres, created a significant risk of a high number of civilian casualties and injuries, as well as of damage to civilian objects’. The Trial Chamber therefore considered that this ‘was excessive in relation to the anticipated military advantage’. ICTY, *Prosecutor v Ante Gotovina et al.*, IT-06-90, Judgment (Trial Chamber), 15 April 2011, Vol. I, para 1910.

In *Prlic et al.*, when assessing the legality of the attack that destroyed the Old Bridge of Mostar, the ICTY Trial Chamber considered the bridge to have been a military objective at the time, as it was ‘essential to the [Bosnian Army] for combat activities of its units on the front line’. The Trial Chamber considered that the civilian population of Mostar was dependent on the bridge for maintaining contact between the two banks of the river and for the provision of food and medicines, and that the bridge had great symbolic value. For these reasons, the Trial Chamber found the destruction to have been disproportionate. ICTY, *Prosecutor v Jadranko Prlic et al.*, IT-04-74, Judgment (Trial Chamber), 29 May 2013, Vol. III, paras 1364–66 and 1582–84. In the same case, the Trial Chamber found that between June 1993 and March 1994, the Croatian Defence Forces (HVO) subjected East Mostar to intense, daily and frequent shelling and firing. Without conducting attack-by-attack assessments of expected incidental harm and anticipated military advantage, it concluded that ‘the damage caused to property and persons was substantial and excessive in relation to the direct and concrete military advantage anticipated’. *Ibid.*, para 1689.

⁶⁰ In *Gotovina et al.*, the ICTY Appeals Chamber held, by majority, that the Trial Chamber’s analysis that ‘the attacks on Martić involved a lawful military target was not based on a concrete assessment of comparative military advantage, and did not make any findings on resulting damages or casualties’. ICTY, *Prosecutor v Gotovina, Čermak and Markač*, IT-06-90, Judgment (Appeals Chamber), 16 November 2012, para 82.

⁶¹ In *Prlic et al.*, the ICTY Appeals Chamber quashed the Trial Chamber’s finding with regard to the Old Bridge because, as it constituted a military objective, its destruction could not constitute the crime of wanton destruction not justified by military

ambiguity as to the precedential value of the trial chambers' findings.

84. At the International Criminal Court, no cases so far have discussed the rule of proportionality. However, the Prosecutor addressed the rule in a decision not to open an investigation following the shelling by the Democratic People's Republic of Korea (DPRK) of an island in the Republic of Korea. With regard to the incidental damage caused by the attack on the island, on which a military base and several other military objectives were located, she noted that the size of the island and its civilian areas meant that many of the shells that missed their targets would fall in uninhabited areas of the island or in the surrounding waters rather than on civilian areas. The military advantage of the attack was presumably 'a reassertion of DPRK territorial control of particular waters and a demonstration of its military power in the area'. The Prosecutor concluded that the information available was insufficient to provide a reasonable basis to believe that the anticipated civilian impact would have been clearly excessive in relation to the anticipated military advantage of the attack.⁶²
85. Domestic court practice is even more sparse. In 2005, the Israeli High Court gave some hypothetical examples: if a sniper were shooting at soldiers or civilians from his porch, shooting at him would not violate the rule of proportionality even if, as a result, a civilian neighbour or passerby were harmed. That would not be the case if the building were bombed from the air and scores of its residents and passersby were harmed.⁶³
86. A 2010 decision by the German Federal Prosecutor not to initiate a prosecution in relation to a NATO airstrike in Afghanistan included an incidental discussion of proportionality. The decision related to an aerial attack with two 500-pound bombs against two tankers, transporting fuel for NATO, that had been stolen by the Taliban. According to the Federal Prosecutor, the anticipated military advantage had been 'on the one hand the final prevention of using the fuel and the fuel tankers as "driving bombs" or to fuel the insurgents' militarily used vehicles and on the other hand the at least temporary disruption of the Taliban's regional command structure', because a 'high-level regional commander' was among the Taliban present. The Federal Prosecutor considered that '[e]ven if the killing of several dozen civilians would have had to be anticipated ... from a tactical-military perspective this would not have been out of proportion to the anticipated military advantage'.⁶⁴

necessity. However, as noted by the dissenting judge, Judge Fausto Pocar, the majority of the Appeals Chamber did not explicitly state that the Trial Chamber's conclusion that the incidental damage had been excessive was an error. In Judge Pocar's view, the majority of the Appeals Chamber therefore 'appears to uphold' the Trial Chamber's finding in this regard. ICTY, *Prosecutor v Jadranko Prlic et al.*, IT-04-74, Judgment (Appeals Chamber), 29 November 2017, Vol. I, para 411; and Dissenting Opinion of Judge Fausto Pocar thereto, at p. 4. With regard to the intense, daily and frequent shelling and firing, the Appeals Chamber considered that while the Trial Chamber had erred in law by failing to clearly set out the military advantage anticipated, the attack was nonetheless indiscriminate, and thus unlawful. ICTY, *Prosecutor v Jadranko Prlic et al.*, IT-04-74, Judgment (Appeals Chamber), 29 November 2017, Vol. I, para 561.

⁶² ICC (2014), *Situation in the Republic of Korea*, Article 5 Report (Office of the Prosecutor), June 2014, paras 23–24 and 26.

⁶³ Israel, High Court of Justice, *The Public Committee against Torture in Israel v The Government of Israel*, H CJ 769/02, Judgment, 11 December 2005, para 46.

⁶⁴ Prosecutor General to the German Federal Court of Justice, *Fuel Tankers case*, 3 BJs 6/10-4, 16 April 2010. Unofficial translation by the ICRC, https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2_cou_de_rule14.

87. At times belligerents set themselves, as a matter of policy, stricter obligations than those required by law. These may preclude attacks in circumstances in which the incidental harm would not necessarily be excessive as a matter of law. For example, a 2010 ISAF Tactical Directive required commanders approving an airstrike in Afghanistan to determine that no civilians were present, and prohibited attacks if it was impossible to assess the risk of civilian presence.⁶⁵
88. The armed forces of a number of states have developed sophisticated procedures and analytical matrices to assist commanders in identifying expected incidental harm and to promote objectivity and consistency.⁶⁶ These collateral-damage estimation methodologies aim to ensure that commanders are provided with all necessary information, and assist in the assigning of values to the incidental harm to be considered. They do not, however, address the question of whether the expected harm would be excessive. The decision as to whether the incidental harm would be excessive cannot result from the application of a mechanical formula, but remains a value judgment to be made by the commander, in good faith and in a reasonable manner, as discussed above.
89. Belligerents should develop methodologies to ensure that those planning and deciding attacks are provided with all necessary information on expected incidental harm, and to assist them in assigning weight to the incidental harm to be considered.

3.4 Conclusions and recommendations

- i. The incidental harm to be considered in a proportionality assessment is that harm
 - a. which would not occur *but for* the attack, but *excluding* harm that is
 - not due to the physical effects of the attack; and
 - which results from the conduct of another actor,and
 - b. which was reasonably foreseeable at the time the attack was launched on the basis of information that the attacker had or could reasonably be expected to have in the circumstances.

⁶⁵ <https://reliefweb.int/report/afghanistan/afghanistan-general-petraeus-issues-updated-tactical-directive-emphasizes>. More generally, see Australia Department of Defence (2009), *Australian Defence Doctrine Publication 3.14, Targeting*, para 3.27:

ADF policy on ROE is contained in ADDP 06.1—Rules of Engagement. The policy limits that are applicable to targeting activities may be contained within the ROE issued by the CDF and promulgated in turn by subordinate commanders. It should be noted that any limits imposed by authorised ROE are enforceable orders. The ROE issued for an operation must be at least as restrictive as the applicable law. It is a matter of policy, expressed in the ROE, whether ADF elements are authorised to use force to [the] full extent permitted by law, or are subject to further constraints. Such additional constraints may be the result of political, diplomatic and operational/military considerations.

⁶⁶ See, for example, Australia Department of Defence (2009), *Australian Defence Doctrine Publication 3.14, Targeting*, para 4.16:

[t]he ADF CDE methodology is a five level classification process that provides the commander with empirically derived collateral damage estimation and mitigation tools designed to support command decision-making and weigh military necessity against collateral damage risk.

See also US Chairman of the Joint Chiefs of Staff Instruction (2009), *No-Strike and the Collateral Damage Estimation Methodology*, CJCSI 3160.01, 13 February 2009.

- ii. In assessing expected incidental harm, belligerents must rely on information that they have, or can reasonably be expected to have, from all sources in the circumstances. Information that is ‘reasonably available’ is a minimum standard that belligerents must meet. Should a belligerent actually possess information over and above what it can reasonably be expected to have in the circumstances, it must make use of it.
- iii. These rules apply to all attacks. How they operate in practice varies with circumstances. The level of refinement of the analysis depends on what information a belligerent can reasonably be expected to have, and therefore what incidental harm can be considered as reasonably foreseeable; this is dependent upon the context in which an attack is planned or conducted.
- iv. Neither the word ‘expected’ in the formulation of the rule of proportionality in Additional Protocol I, nor the notion of ‘foreseeability’ or ‘reasonable foreseeability’, implies a particular degree of certainty that the incidental harm in question will actually occur. Likelihood is therefore relevant only to the weight to be assigned to the harm in proportionality assessments.
- v. Assigning weight to particular incidental harm, which is then balanced against the weight assigned to the anticipated military advantage, enables a range of factors and considerations to be taken into account. These include the likelihood that the harm in question will occur, the severity of the expected harm and the cultural value of civilian objects that may be damaged.
- vi. As far as civilian objects are concerned, in view of the aim of IHL to spare civilians from the effects of hostilities, greater weight **should be assigned** to those objects whose damage or destruction will have the most severe effects on civilians.
- vii. In the determination of whether the expected incidental harm would be excessive in relation to the anticipated military advantage, ‘excessive’ is a wide but not indeterminate standard. Provided they do what is required to collect information on which to base their assessment, and conduct it in good faith and in a manner that is reasonable, belligerents have a fairly broad margin of judgment to determine whether expected incidental harm would be excessive in relation to the anticipated military advantage.
- viii. Belligerents **should develop** methodologies to ensure that those planning and deciding attacks are provided with all necessary information on expected incidental harm, and to assist them in assigning weight to the incidental harm to be considered.

4. What Constitutes ‘Incidental Harm’?

90. For proper application of the rule of proportionality, it is necessary to determine with as much clarity as possible what falls within either side of the proportionality assessment. With regard to the incidental harm side of the assessment, Article 51(5)(b) AP I lists three types of damage: loss of civilian life, injury to civilians and damage to civilian objects.

4.1 Who is a civilian?

91. Two of the types of incidental harm that fall within proportionality assessments relate to harm suffered by civilians. It is therefore necessary to determine who is a civilian for the purpose of the rule.

4.1.1 The basic rule

92. In international armed conflicts, determining who is a civilian as a matter of law is straightforward: a civilian is essentially anyone who is not a member of a state’s armed forces.⁶⁷ The position in non-international armed conflicts is more complicated, and there are a number of competing views as to whether and, if so, in what situations members of organized armed groups should not be considered civilians. The first view is that only members of states’ armed forces are combatants. Everyone else is a civilian, who loses protection from direct attack only for such time as she or he takes a direct part in hostilities.⁶⁸ The other two approaches expand this position to include other categories of people who, like members of states’ armed forces, may be targeted at all times. According to the second approach, developed in the *ICRC Interpretive Guidance on Direct Participation in Hostilities*, the members of organized armed groups are deemed not to be civilians for the duration of their membership of said groups. The decisive consideration in determining membership is whether a person has assumed a ‘continuous combat function’ involving direct participation in hostilities.⁶⁹ The third view adopts a broader approach as to what amounts to membership of an organized armed group and, consequently, forfeiture of civilian status.⁷⁰

93. This paper does not take a view on the relative merits of these approaches. It refers to them insofar as they have an impact on whose death or injury falls within the scope of incidental harm for the purpose of proportionality assessments. If the first position is adopted, the death or injury of civilians will amount to incidental harm, apart from such time as they take a direct part in hostilities. Under the second approach, the death or injury of those who have continuous combat functions will not fall within the scope of incidental harm; and, finally, pursuant to the

⁶⁷ Article 50(1) AP I. In addition to members of states’ armed forces, participants in a *levée en masse* are also not civilians.

⁶⁸ See for example, UK Military Manual, Section 15.6.

⁶⁹ ICRC (2009), *ICRC Interpretive Guidance on Direct Participation in Hostilities*, Sections II and VII.

⁷⁰ See, for example, Dinstein, Y. (2014), *Non-International Armed Conflicts in International Law*, pp. 61–62; and Schmitt, M. and Widmar, E. (2014), “On Target”: Precision and Balance in the Contemporary Law of Targeting’, *Journal of National Security Law and Policy*, Vol. 7, p. 379, at p. 387.

third interpretation, the death or injury of all those considered members of organized armed groups will not constitute incidental harm.

4.1.2 Civilians taking direct part in hostilities: the position of ‘human shields’

94. Individual civilians enjoy general protection from the dangers arising from military operations, including the prohibition on directly attacking civilians ‘unless and for such time as they take a direct part in hostilities’.⁷¹ Although they retain their status as civilians during such participation, civilians who take a direct part in hostilities are excluded from the proportionality assessment for the duration of this participation.
95. While this position is uncontroversial, divergences of views exist as to which activities amount to direct participation in hostilities. Opinions differ, for example, on how to consider civilians whose presence is used to deter attacks against military objectives, or ‘human shields’.⁷² The various positions have been discussed in detail elsewhere, and the matter will only be briefly outlined here, as it has been suggested that the rule of proportionality can provide a middle ground between opposing views.
96. A distinction – difficult to implement in practice, whatever its legal validity – has been drawn between ‘involuntary’ and ‘voluntary’ human shields. In view of the challenges of determining whether someone is a ‘voluntary’ human shield, it should be presumed that this is not the case unless there is evidence to the contrary. There is general agreement that civilians whose presence is used to deter attacks *against their will* are not taking direct part in hostilities. Accordingly, their death or injury falls within the scope of the proportionality assessment. The divergence of views relates to ‘voluntary’ human shields: civilians who *willingly* locate to military objectives to deter attacks.
97. The experts participating in the elaboration of the *ICRC Interpretive Guidance* were unable to reach agreement on this issue.⁷³ The view adopted by the *Guidance* is that deliberate abuse by civilians of their entitlement to protection in order to shield a military objective does not automatically amount to direct participation in hostilities. The obstacle they pose is a legal rather than a physical one: they do not actually and physically prevent the attack, but merely render it unlawful. Consequently, they cannot be considered as taking direct part in hostilities, meaning that the risk of their death or injury constitutes incidental harm for the purposes of the rule of proportionality.⁷⁴ Those who oppose this view consider that ‘voluntary’ human shields take actual steps to prevent harm to military objectives, and in so doing contribute to military action in a direct causal way. Accordingly, their actions amount to direct participation, and the risk of their death or injury thus does not fall within the scope of incidental harm.⁷⁵

⁷¹ Article 51(3) AP I. For a recent and comprehensive analysis of what amounts to ‘direct participation in hostilities’, see ICRC (2009), *ICRC Interpretive Guidance on Direct Participation in Hostilities*.

⁷² See, for example, *ibid.*, pp. 56–57 and reports of expert discussions referred to there.

⁷³ *Ibid.*, p. 57.

⁷⁴ *Ibid.*, pp. 56–57.

⁷⁵ See, for example, Schmitt, M. (2009), ‘Human Shields in International Law’, *Israel Yearbook on Human Rights*, Vol. 38, p. 7, at p. 41.

98. A third approach considers ‘voluntary’ human shields as not directly participating in hostilities. However, it affords reduced weight to the risk of their death or injury in proportionality assessments, so as not to provide undue advantage to the party benefiting from their presence in violation of its obligation not to use the presence of civilians to render certain points or areas immune from military operations.⁷⁶

4.1.3 Nationality of and control over civilians

99. The 1949 Fourth Geneva Convention relative to the Protection of Civilian Persons in Time of War, despite its broad title, contains only a small number of provisions applicable to *all* civilians in states involved in armed conflict.⁷⁷ But the rules on the conduct of hostilities codified in Additional Protocol I extend to *all* civilians, not just those ‘in the hands’ of a party of which they are not nationals.⁷⁸ The nationality of civilians who may be killed or injured by an attack is thus irrelevant for the purpose of the rule of proportionality.⁷⁹

100. Under whose control civilians find themselves is similarly irrelevant. Some of the rules on the conduct of hostilities in Additional Protocol I afford protection only to civilians ‘under the control’ of the party to the conflict to whom the rules are addressed. For example, Article 58(a) AP I on precautions in defence requires belligerents to endeavour to remove the civilian population, individual civilians and civilian objects under their control from the vicinity of military objectives.⁸⁰ The rule of proportionality does not include similar limitations. The incidental harm to be considered is the death or injury of all civilians: both those under the control of the enemy and those under the control of the party conducting the attack,⁸¹ including the latter’s nationals.

4.1.4 Other categories of people

101. In addition to civilians, a number of other categories of people may also be harmed by attacks against military objectives. These include persons who are hors de combat and military personnel unaffiliated with the parties to the conflict, such as troops in peacekeeping forces. The question arises of whether their death or injury falls within the scope of proportionality assessments.

102. A divergence of views exists as to the position of wounded and sick members of states’ armed

⁷⁶ See, for example, UK Military Manual, para 5.22.1.

⁷⁷ Articles 13–26 1949 Geneva Convention relative to the Protection of Civilian Persons in Time of War (GC IV). The majority of the rules apply only to ‘protected persons’ as defined in Article 4 of the Convention: persons who find themselves, in case of a conflict or occupation, in the hands of a party to the conflict or occupying power of which they are not nationals.

⁷⁸ As pointed out in the ICRC Commentary, ‘[i]n protecting civilians against the dangers of war, the important aspect is not so much their nationality as the inoffensive character of the persons to be spared’. ICRC Commentary to the APs, para 1909.

⁷⁹ The position does not appear to be disputed. See, for example, Dinstein, Y. (2016), *The Conduct of Hostilities under the Law of International Armed Conflicts*, 3rd ed., Cambridge University Press, para 427; and Henderson, I. (2009), *The Contemporary Law of Targeting*, Brill, pp. 227–29.

⁸⁰ Similarly, Article 58(c) AP I requires belligerents to take the other necessary precautions to protect the civilian population, individual civilians and civilian objects under their control against the dangers resulting from military operations.

⁸¹ This was the position recently adopted by the Syria Commission of Inquiry, which, in assessing whether a government airstrike that damaged a water spring violated the rule of proportionality, considered its adverse impact on civilians in both opposition and government-held territory. UN Doc A/HRC/34/CRP.3, 10 March 2017, paras 32–37.

forces. Recently, this issue has received considerable attention, so it is not addressed in any detail in this paper.⁸² The divergence of views relates to the interplay between the obligation to respect and protect wounded and sick members of the armed forces in all circumstances and the scope of the rule of proportionality, which, at least as formulated in Additional Protocol I, refers exclusively to civilians.

103. While the debates have focused on wounded and sick members of the armed forces, similar issues arise in relation to military medical personnel;⁸³ wounded, sick and shipwrecked members of states' armed forces;⁸⁴ and prisoners of war.⁸⁵
104. The position of the military personnel of peacekeeping forces is simpler, and depends on whether the force is a party to the conflict in the state where it has been deployed. If the force is *not* a party to the conflict, then, although the troops are not civilians, they are deemed not to be members of the armed forces of a party to the conflict. Accordingly, they are entitled to the same protections as other non-combatants: they must not be the object of attack, and their death or injury falls within the scope of incidental harm. If the peacekeeping force *is* or *becomes* a party to the conflict, then the troops are in the same position as members of the armed forces of other belligerents.

4.2 Loss of civilian life

105. What constitutes loss of life is uncontroversial. The difficulties that may arise in identifying the deaths to be factored into proportionality assessments are likely to relate to questions of causation and foreseeability, discussed in Section 3.1 of this paper.

4.3 Injury to civilians

106. The second heading of loss referred to in Article 51(5)(b) AP I is 'injury to civilians'. What amounts to 'injury' has received extremely limited attention in military manuals and jurisprudence. Most military manuals simply repeat the wording of Additional Protocol I, or

⁸² See, for example, ICRC (2016), *Commentary on the First Geneva Convention: Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field*, 2nd ed., para 1357; Kleffner (2018), 'Military Collaterals And *Ius In Bello* Proportionality'; Corn, G. and Culliver, A. (2017), 'Wounded Combatants, Military Medical Personnel, and the Dilemma of Collateral Risk', *Georgia Journal of International and Comparative Law*, Vol. 45, No. 3, p. 445; and Gisel, L. (2018), 'The protection of medical personnel under the Additional Protocols: the notion of "acts harmful to the enemy" and debates on incidental harm to military medical personnel', in Pocar, F. and Beruto, G. L. (eds) (2018), *The Additional Protocols 40 Years Later: New Conflicts, New Actors, New Perspectives*, 40th Round Table on Current Issues of International Humanitarian Law, International Institute of Humanitarian Law, p. 158.

⁸³ These non-combatant members of states' armed forces are 'medical personnel exclusively engaged in the search for, or the collection, transport or treatment of the wounded or sick, or in the prevention of disease, staff exclusively engaged in the administration of medical units and establishments', and must also be respected and protected in all circumstances. Article 24 of the 1949 Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field (GC I).

⁸⁴ Article 12 of the 1949 Geneva Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces (GC II) requires them to be respected and protected in all circumstances.

⁸⁵ Pursuant to Articles 13 and 14 of the 1949 Geneva Convention relative to the Treatment of Prisoners of War (GC III), prisoners of war must be protected at all times and are entitled to respect for their persons and honour in all circumstances.

sometimes refer to ‘civilian casualties’ instead,⁸⁶ but provide no further explanation of what falls within the scope of ‘injury’. With the recent exception of mental harm,⁸⁷ the issue has also not been addressed in the literature.⁸⁸ A number of questions warrant consideration.

4.3.1 Types of harm

4.3.1.1 Injury and disease

107. There is no definition of, or guidance as to what constitutes, ‘injury’ for the purposes of proportionality assessments in treaty law, military manuals or literature.⁸⁹ There is a medical distinction between an ‘injury’, which is caused by the application of external forces, and a ‘disease’.⁹⁰ The negotiating history of Additional Protocol I does not suggest that it was the intention of the drafters to exclude diseases. There appears no reason to adopt a narrow interpretation of the types of physical harm to be considered for the purpose of proportionality. Excluding disease could give rise to absurd results, for example, requiring expected injuries caused by the blast of nuclear weapons to be considered, but not those caused by the exposure to radiation from the same attack.
108. The nature of the harm is thus not relevant. As discussed in Section 3.1 for the purposes of proportionality what matters is whether the harm can be expected to be caused by the attack and is reasonably foreseeable.

⁸⁶ For example, the UK Military Manual refers to ‘injury’ or ‘casualties’ without elaborating further (Sections 5.33 and 13.5.g); the US DoD Manual refers to ‘incidental harm’ or ‘injury’ (Sections 4.8.2 and 5.12 respectively); and MAMW refers to ‘injury’ (Rule 1(l)m).

⁸⁷ Liebllich, E. (2014), ‘Beyond Life and Limb: Exploring Incidental Mental Harm Under International Humanitarian Law’, in Jink, D., Maogoto, J. and Solomon, S. (eds) (2014), *Applying International Humanitarian Law in Judicial and Quasi-Judicial Bodies – International and Domestic Aspects*, p. 185; and Knuckey, S., Moorehead, A. and McCalley, A. (forthcoming 2019), ‘Should the Proportionality Rule Include Mental Harm?’, in Kreß, C. and Lawless, R. (eds), (forthcoming 2019), *Necessity and Proportionality in International Peace and Security Law*, forthcoming 2019), Liber Institute.

⁸⁸ What constitutes ‘injury’ was discussed at the ICRC/Laval meeting. See ICRC/Laval Report, pp. 33–37.

⁸⁹ The Tallinn Manual 2.0 is the only document that addresses the notion of ‘injury’. It does so in the commentary to the definition of ‘cyberattack’, which notes that:

[w]hile the notion of attack extends to injuries and death caused to civilians, it is, in light of the law of armed conflict’s underlying humanitarian purposes, reasonable to extend the definition to serious illness and severe mental suffering that are tantamount to injury. In particular, note that Article 51(2) Additional Protocol I prohibits ‘acts or threats of violence the primary purpose of which is to spread terror among the civilian population’. Since terror is a psychological condition, resulting in mental suffering, inclusion of such suffering in this Rule is supportable through analogy.

Tallinn Manual 2.0, Rule 92, para 8.

⁹⁰ According to the *Oxford Concise Medical Dictionary*, a ‘disease’ is:

a disorder with a specific cause (which may or may not be known) and recognizable signs and symptoms; any bodily abnormality or failure to function properly, except that resulting directly from physical injury (the latter, however, may open the way for disease). It is often contrasted with illness, where the abnormal symptoms, thoughts, or feelings may be subjective and difficult to assess objectively.

Martin, E. (2015), *Oxford Concise Medical Dictionary*, 9th edition, Oxford: Oxford University Press.

4.3.1.2 *Mental harm*

109. Treaties, commentaries, manuals and the vast majority of writings do not discuss whether the harm to be considered in proportionality assessments is limited to physical harm, or whether it could also extend to mental harm.⁹¹
110. IHL prohibits the *intentional* infliction of certain types of mental harm, including acts or threats of violence whose primary purpose is to spread terror among the civilian population;⁹² mental torture;⁹³ and violence to mental well-being.⁹⁴ These prohibitions are set out in the Additional Protocols of 1977. The fact that provisions referring explicitly to mental harm are to be found in the same instrument as the rule of proportionality in Article 51(5)(b) AP I, or in an instrument negotiated in the same diplomatic process, should not be interpreted as indicating that their omission from the rule of proportionality means that the drafters intentionally excluded mental harm. Additional Protocol I does not define ‘harm’, and the fact that mental harm was not addressed during the negotiations of Articles 51 and 57 is probably merely a reflection of the fact that at the time it was not considered that attacks, unlike torture or ill treatment, could also cause mental harm.⁹⁵
111. Taking this into account, and in view also of the developments in the medical understanding of mental harm since 1977, and its increasing recognition in human rights law and IHL, there is no reason in principle to exclude mental harm from the scope of proportionality assessments. That said, the nature of mental harm raises a number of challenges to key elements of proportionality assessments, including questions of causation, foreseeability and the weight to be assigned to the risk of the occurrence of mental harm. These make mental harm more amenable to being taken into account in the planning stages for deliberate targeting rather than in dynamic targeting.
112. In terms of causation, the rule of proportionality requires identification of the incidental harm that can be expected as a result of a specific attack. While this is usually straightforward for physical injury, doing so with regard to mental harm is far more complex. Civilians are frequently exposed to hostilities for prolonged periods, making it difficult to determine whether a particular attack is likely to cause mental harm.
113. With regard to foreseeability, the occurrence of mental harm is more subjective than that of

⁹¹ At present, the most comprehensive analysis of mental harm and IHL are Lieblich (2014), ‘Beyond Life and Limb’, and Knuckey, Moorehead and McCalley (forthcoming 2019), ‘Should the Proportionality Rule Include Mental Harm?’. See also Schmitt, M. and Highfill, C. (2018), ‘Invisible Injuries: Concussive Effects and International Humanitarian Law’, *Harvard National Security Journal*, Vol. 9, p. 72.

⁹² Article 51(2) AP I. For a discussion of the evolution of the recognition of ‘the person’ as a whole as a protected value in IHL, see Lieblich (2014), ‘Beyond Life and Limb’, pp. 194–97.

⁹³ Article 75(2) AP I.

⁹⁴ Article 4(2)(a) of the Protocol Additional to the Geneva Conventions of 1949, and relating to the Protection of Victims of Non-International Armed Conflicts (AP II). Under the Statute of the International Criminal Tribunal for Rwanda (ICTR), violations of common Article 3 GCs are defined as including ‘violence to life, health and physical or mental well being’, Article 4(a). The 2016 Commentary to GC I takes the same approach to what constitutes cruel treatment and torture under common Article 3 GCs. See ICRC (2016), *Commentary on the First Geneva Convention: Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field*, 2nd ed. (‘ICRC Commentary to GC I’), paras 590, 622 and 639.

⁹⁵ Two representatives who participated in the negotiations of what became Articles 51 and 57 AP I told the author of this paper that in their recollection mental harm had simply not been considered.

physical harm. This makes it more difficult to foresee. The effects on mental health of exposure to an attack are likely to vary significantly, both among individuals and also depending on the context of where the attack occurs.

114. Finally, concerns have also been expressed about the difficulties of quantifying mental harm – that is, assigning a weight to its occurrence. It is unclear why this should be more difficult than for other types of harm. On the contrary, it is precisely at this weighing stage of proportionality assessments that some of the difficulties currently raised by mental harm can be addressed. These include the likelihood of it occurring and its severity.
115. While there is no reason in principle to exclude mental harm from the scope of proportionality assessments, the majority of state practice considered for this paper does not take mental harm into account.⁹⁶ It is unclear whether this is because states do not consider that they are legally obliged to do so, or because of the practical challenges just outlined of identifying and quantifying the mental harm expected from an attack.
116. Those involved in the development of collateral-damage estimation methodologies – in particular, medical experts – should look for appropriate ways of considering and quantifying mental harm. As scientific understanding of the mental health effects of attacks evolves, methodologies should be refined. Belligerents should find the means to take mental harm into account in proportionality assessments.
117. It should also be noted that other rules of IHL on the conduct of hostilities require belligerents to consider the possible mental harm inflicted on civilians. In particular, in the conduct of military operations belligerents are required to take constant care to spare the civilian population.⁹⁷ This obligation is broader in scope – albeit vaguer in content – than the rule of proportionality. It relates to military operations more widely, and is not limited to the types of harm expressly referred to in the rule of proportionality.

4.3.2 Severity of harm

118. Article 51(5)(b) AP I refers to ‘injury’ without suggesting that it must reach a minimum severity. Military manuals take the same approach. Rather than a consideration that may exclude particular injuries from incidental harm, the severity of the expected harm affects the weight to be assigned to it in proportionality assessments. For example, burns expected to be caused from exposure to incendiary weapons are more severe and, therefore, should be assigned greater weight than light contusions expected to be caused by flying debris.

⁹⁶ Nevertheless, there is *some* practice. The discussion of ‘collateral damage considerations’ in NATO Joint Targeting Doctrine, for example, refers to psychological effects. See NATO Standard AJP-3.9 Allied Joint Doctrine for Joint Targeting (2016), 1-10, para 0125:

[c]onsideration of collateral psychological effects. Lethal and non-lethal engagements can result in psychological effects, some of which may be undesirable. A deeper understanding of the human environment allows a better definition of desired and undesired psychological effects. This helps reduce the level of risk. Nevertheless, the psychological risk estimate may not achieve the same level of prediction as the physical one. Although there is no agreed methodology, commanders and their staffs should reduce the risk by understanding the human environment through target audience analysis.

⁹⁷ Article 57(1) AP I.

119. Another factor that affects the weight to be assigned to injuries is the difficulty of receiving treatment. Belligerents must take into account the context in which the attack will be carried out. For example, if local health facilities can only provide basic treatment and are already overstretched, blast injuries that may have been treatable in other contexts are more likely to result in death or permanent disabilities, particularly in children.

4.4 Damage to civilian objects

120. The third and last type of harm identified in Article 51(5)(b) AP I is damage to ‘civilian objects’. Additional Protocol I defines these as ‘all objects which are not military objectives’.⁹⁸ Military objectives are defined as:

those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.⁹⁹

121. The location of civilian objects, and which party has control over them, is not determinative for the rule of proportionality. The civilian objects whose damage must be considered are those under the control of the enemy, but also those under the control of the party conducting the attack.

4.4.1 Civilian objects

122. This paper focuses on two types of civilian objects: ‘dual-use objects’ and elements of the natural environment. Diverging views have been expressed in the past as to whether – and, if so, to what extent – damage to these objects falls within the scope of incidental harm. The paper also touches upon the position of cultural property.
123. Some of the discussions referred to in Section 4.1 on whether the death or injury of members of the armed forces fall within the scope of incidental harm have also addressed the position of military medical facilities. For the reasons set out above, they are not considered in this paper.¹⁰⁰

4.4.1.1 ‘Dual-use objects’

124. When civilian objects are used for military purposes, they may become military objectives. There may be circumstances in which an object, in addition to being used for military purposes, continues to have a civilian function. For example, an electrical power station may supply both a military compound and a hospital. In these circumstances, the object is sometimes colloquially referred to as a ‘dual-use object’. The term is misleading, as it gives the impression

⁹⁸ Article 52(1) AP I.

⁹⁹ Article 52(2) AP I.

¹⁰⁰ For arguments in favour of including their damage in proportionality assessments, see, for example, the 2016 ICRC Commentary to GC I, para 1794; ICRC/Laval Report, pp. 160–61; and Dinstein (2016), *The Conduct of Hostilities*, para 416. For arguments in favour of the opposite position, see, for example, Henderson (2009), *The Contemporary Law of Targeting*, paras 7.7.2, 7.7.3 and 8.3.1; and US DoD Manual, paras 5.10.2 and 7.10.1.1.

that an object can simultaneously be both a military objective and a civilian object. However, once a civilian object becomes a military objective, it ceases to be a civilian object.

125. Dual-use objects raise a number of legal questions. One question is what constitutes the military objective in a particular circumstance. For example, if a particular apartment in an apartment block has become a military objective by virtue of its use, but the other apartments in the block are not used in this manner, is the military objective just the single apartment or the entire block? While this is a question of distinction, the answer will affect how the rule of proportionality is applied.¹⁰¹
126. Another question relates to what constitutes the incidental harm to be considered in proportionality assessments in relation to attacks on dual-use objects. A dual-use object is a military objective, and thus damage caused to the object itself does not constitute damage to a civilian object.¹⁰² However, a dual-use object continues to have a civilian function, which will be impaired if the military objective is struck. Does this impairment amount to incidental harm, and should it therefore be taken into account in proportionality assessments?
127. There is general agreement that civilian deaths and injury and damage to civilian objects expected to occur as a result of the impairment of the continuing civilian function must be included in proportionality assessments. This is a form of ‘reverberating’ or ‘knock-on’ harm, discussed in Section 3.1.3. Accordingly, in the example of the electrical power station above, the civilian deaths and injury that can reasonably be foreseen to result from its destruction – for instance, because a hospital’s power supply is cut off – must be taken into account in proportionality assessments.
128. Different views have been expressed as to whether – and, if so, how – *additional* adverse effects expected to occur as a result of the impairment of the civilian function of dual-use objects should be considered in proportionality assessments. As the civilian object has become a military objective, there does not appear to be any legal basis for taking into account damage to the dual-use object in proportionality assessments. In addition, adverse effects from the impairment of the civilian function (other than civilian deaths and injury, and damage to civilian objects) do not fall within the scope of incidental harm under Additional Protocol I so are not taken into account.
129. Some support has, however, been expressed for taking such additional adverse effects into account by assigning some weight to the impairment of the dual-use function. For example, if a one-room school is used as a military communications centre and therefore becomes a military objective, belligerents would be required to somehow give weight to the impairment of its educational function in proportionality assessments.¹⁰³

¹⁰¹ See, for example, ILA Study Group Report, pp. 9–11.

¹⁰² See, for example, US DoD Manual, para 5.6.1.2.

¹⁰³ See, for example, the discussions at the ICRC/Laval expert meeting, ICRC/Laval Report, pp. 38–40; and ILA Study Group Report, pp. 11–12.

130. It should be noted that there are other rules of IHL that require belligerents to take into consideration the civilian functions that military objectives may also serve. For example, Article 52(3) AP I requires a relatively high level of confidence before an object ‘normally dedicated to civilian purposes, such as a place of worship, a house or other dwelling or a school’ can be considered a military objective. Moreover, Article 57(1) requires ‘constant care’ to be taken in the conduct of military operations to spare the civilian population. This obligation should be read as requiring belligerents to the extent feasible to avoid or minimize the adverse effects of military operations, including where such effects are due to the impairment of a civilian function of a military objective. IHL also accords special protections to certain objects such as medical facilities, cultural property and objects indispensable for the survival of the civilian population. In doing so, the function of these objects is taken into account and IHL sets stringent limitations on attacking them *even* in the event that they have become military objectives.
131. States’ armed forces may also be required, as a matter of policy, to take the civilian function of military objectives into account in the targeting decision-making process. Targeting of military objectives with particularly important civilian functions can require special authorization from higher echelons of command, or such objectives may be on ‘no-strike’ lists.¹⁰⁴ Belligerents should be encouraged to adopt such policies, both to facilitate the implementation of relevant rules of IHL and to reduce the adverse effects on the civilian population, even beyond the requirements of law.

4.4.1.2 Elements of the natural environment

132. Different views exist as to how to consider the natural environment for the purposes of IHL. Additional Protocol I does not provide a definition, but the ICRC Commentary to Article 55 AP I suggests that ‘the concept of the natural environment should be understood in the widest sense to cover the biological environment in which a population is living. It does not consist merely of the objects indispensable to survival mentioned in Article 54 – foodstuffs, agricultural areas, drinking water – but also includes forests and other vegetation ... as well as fauna, flora and other biological or climatic elements’.¹⁰⁵
133. In view of this extremely broad understanding, a first divergence of views relates to whether the natural environment should be considered a single object in its totality, or whether it is made up of a series of different elements.¹⁰⁶ Without prejudice to the former position, this paper uses the expression ‘elements of the natural environment’.
134. The second divergence of views relates to whether the natural environment should be considered from an anthropocentric angle, with the consequence that it warrants consideration and protection only inasmuch as harm to it has negative consequences for civilians; or whether

¹⁰⁴ See, for example, NATO (2016), *Allied Joint Doctrine for Joint Targeting*, para 0419; and US Chairman of the Joint Chiefs of Staff Instruction (2012), *No-Strike and the Collateral Damage Estimation Methodology*, CJCSI 3160.01A, 12 October 2012, Enclosures B and C.

¹⁰⁵ ICRC Commentary to APs, para 2126.

¹⁰⁶ See, for example, Droege, C. and Tougas, M.-L. (2013), ‘The Protection of the Natural Environment in Armed Conflict – Existing Rules and Need for Further Legal Protection’, *Nordic Journal of International Law*, Vol. 82, Issue 1, p. 21, at pp. 25–27, and references therein.

it possesses intrinsic value that IHL protects *per se*.¹⁰⁷

135. Proponents of the anthropocentric view of the natural environment do not consider it to be an ‘object’ as the term is understood in IHL. Damage to elements of the natural environment is only relevant if and to the extent that it negatively affects the health of civilians or causes harm to civilian objects.¹⁰⁸ Under this view, damage to the environment is not assigned any value *per se* in proportionality assessments. Only the ensuing harm to civilians and civilian objects is taken into account – provided that it meets the criteria of causation and foreseeability.
136. Today, the prevailing view supports the alternative, ‘intrinsic value’ approach. This considers all elements of the natural environment to be civilian objects, and protected as such.¹⁰⁹ As is the case for other civilian objects, their location or use may turn some of them into military objectives.¹¹⁰ Unless and until this occurs, however, damage to an element of the natural environment constitutes damage to a civilian object that must be considered in proportionality assessments.¹¹¹ It is not necessary for the damage to elements of the natural environment also to cause harm to civilians or civilian objects; damage to elements of the natural environment alone may render an attack unlawful. If such damage in turn causes harm to civilians and civilian objects, that meets the criteria on causation and foreseeability set out above; such reverberating harm would also fall within the scope of proportionality assessments.
137. Elements of the natural environment can be directly damaged by an attack, for example by the use of defoliants. However, in many circumstances damage is a ‘knock-on’ effect of an attack against or damaging another object. For example, damage to the electricity network could

¹⁰⁷ See, for example, Schmitt, M. (1997), ‘Green War: An Assessment of the Environmental Law of International Armed Conflict’, *Yale Journal of International Law*, Vol. 22, Issue 1, p. 1, pp. 6–7.

¹⁰⁸ See, for example, Schmitt, M. and Merriam, J. (2015), ‘The Tyranny of Context: Israeli Targeting Practices in Legal Perspective’, *University of Pennsylvania Journal of International Law*, Vol. 37, No. 1, p. 53, at p. 99. See also, Schmitt (1997), ‘Green War’, at pp. 55–61. The prohibition in Article 55(1) AP I on methods or means of warfare intended or that may be expected to cause widespread, long-term and severe damage to the natural environment takes a similar anthropocentric approach, because it only applies when such damage prejudices the health or survival of the population.

¹⁰⁹ See, for example, Rule 43 (c) ICRC CLS. While the ICJ does not state this expressly, this is implicit in its assertion that: ‘States must take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives. Respect for the environment is one of the elements that go into assessing whether an action is in conformity with the principles of proportionality.’ *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, July 8, 1996, ICJ Reports, 1996, 226, para 62.

The Tallinn Manual 2.0, Rule 143, notes that the natural environment is a civilian object. See also the International Law Commission’s second report on the protection of the environment in relation to armed conflicts, UN Doc A/CN.4/685, 28 May 2015, paras 147–51 and draft Principle 1, which provides that: ‘[t]he natural environment is civilian in nature and may not be the object of an attack, unless and until portions of it have become a military objective. It shall be respected and protected, consistent with applicable international law, and, in particular international humanitarian law’.

National military manuals that expressly take this approach include the Royal Australian Air Force Operations Law for RAAF Commanders, Section 8.22(a): ‘the natural environment is not a legitimate object of attack’. Others do so by expressly including harm to the environment in the definition of collateral damage. See footnote 111.

¹¹⁰ Article 52(2) AP I defines military objectives as those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage. No element of the environment will be a military objective by its ‘nature’, i.e. its intrinsic character. See Droege and Tougas (2013), ‘The Protection of the Natural Environment in Armed Conflict’, p. 27.

¹¹¹ This is expressly noted in the definitions of ‘collateral damage’ in a number of texts. See, for example, the San Remo Manual on International Law Applicable to Armed Conflicts at Sea, Section 13.4, which expressly includes damage to or destruction of the natural environment in the definition of ‘collateral damage’. This definition is replicated in the sections of the UK Military Manual on maritime warfare, at 13.5. See European Union Military Committee (2016), *Avoiding and Minimizing Collateral Damage in EU-led Military Operations Concept*, EEAS (2015) 772 Rev 8, 3 February 2016, para 15, <http://data.consilium.europa.eu/doc/document/ST-5785-2016-INIT/en/pdf>. See also ILA Study Group Report, p. 29.

prevent water treatment facilities from operating and lead to waste seepage into water and soil.

138. *Some* damage to elements of the natural environment is inevitable in most attacks. But this is not a ground for excluding it from the assessment. Instead, the extent of the damage is something that is addressed by means of the weight assigned to it.¹¹² In some cases it might be severe, as when defoliants are used; in others far less so, as when trees are destroyed in crossfire.
139. Treating damage to elements of the natural environment as a type of incidental harm raises practical challenges. In particular, at the present stage of scientific knowledge, the extent of such damage may be difficult to foresee, as may be its adverse impact on civilians and civilian objects. In some circumstances, damage to the environment and its effects on civilians and civilian objects may be immediately apparent, as when an aquifer is incidentally polluted. In other circumstances, the harm may not be as evident. Quantifying the expected damage to elements of the natural environment is also more challenging than for other types of incidental harm. This is particularly the case for long-term effects and for damage that is purely to elements of the natural environment itself.¹¹³ These are not reasons for excluding such damage from proportionality assessments, however.
140. The armed forces of a number of states already include such damage in their collateral-damage estimation methodologies.¹¹⁴ Those responsible for planning attacks must do everything feasible to have access to information and analysis on the impact of attacks on the natural environment. Scientific developments that foster a greater understanding of the impact of attacks on the environment should be followed, so that such impact can be duly taken into account.
141. Finally, a legal question arises as to the interplay between the rule of proportionality and some of the provisions of Additional Protocol I that specifically address the environment. Article 35(3) AP I prohibits the use of methods or means of warfare that are intended, or may be expected, to cause ‘widespread, long-term and severe damage to the natural environment’. Article 55(1) AP I similarly prohibits methods or means of warfare that are intended or may be expected to cause such damage to the natural environment, and thereby to prejudice the health

¹¹² The war crime in Article 8(2)(b)(iv) of the ICC Statute only exists in relation to attacks expected to cause ‘widespread, long-term and severe damage to the natural environment’ that is clearly excessive in relation to the concrete and direct overall military advantage anticipated. This is another instance of a higher threshold being set for criminal liability. It should not be read as indicating that only widespread, long-term and severe damage is to be factored into proportionality assessments.

¹¹³ See, for example, Bothe, M., Bruch, C., Diamond, J. and Jensen, D. (2010), ‘International law protecting the environment during armed conflict: gaps and opportunities’, *International Review of the Red Cross*, Vol. 92, No. 879, September 2010, p. 569, p. 578. This was also noted in the Final Report to the Prosecutor on the NATO bombing campaign where, even *ex post facto*, ‘the actual environmental impact, both present and long term, of the NATO bombing campaign [was] at present unknown and difficult to measure’ [para 23]. ICTY (2000), *Final Report to the Prosecutor of the Committee Established to Review the NATO Bombing Campaign against the Federal Republic of Yugoslavia*.

¹¹⁴ See, for example, US Chairman of the Joint Chiefs of Staff Instruction (2012), *No-Strike and the Collateral Damage Estimation Methodology*, D-A-10.: US Joint Publication 3-06, Joint Urban Operations, 20 November 2013, ‘Collateral Damage and Environmental Considerations’, III-11; and 2016 NATO Allied Joint Doctrine for Joint Targeting, para 0122, ‘Collateral damage’. For the purpose of collateral damage estimation (CDE), collateral damage is defined as: ‘the unintentional or incidental physical damage to non-combatants, non-military objects or environment arising from engagement of a legitimate military target’. These methodologies consider environmental harm both in terms of the impact it may have on civilians and civilian objects and in terms of damage to the environment *per se*.

or survival of the population. The customary law status of these provisions is disputed.¹¹⁵ Without prejudice to the position under customary law, for those states that have ratified Additional Protocol I, these provisions modify the rule of proportionality in international armed conflicts, setting a maximum ceiling of permissible damage to elements of the natural environment. Attacks that are intended or expected to cause widespread, long-term and severe damage to the natural environment are prohibited, regardless of the anticipated military advantage.¹¹⁶

4.4.1.3 Cultural property, cultural objects and places of worship

142. Under Article 1 of the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict, 'cultural property' includes:

movable or immovable property of great importance to the cultural heritage of every people, such as monuments of architecture, art or history, whether religious or secular; archaeological sites; groups of buildings which, as a whole, are of historical or artistic interest; works of art; manuscripts, books and other objects of artistic, historical or archaeological interest; as well as scientific collections and important collections of books or archives or of reproductions of the property defined above.¹¹⁷

143. The Second Protocol of 1999 develops the protections of the 1954 Convention, including during the conduct of hostilities. Article 7 on precautions in attack includes a version of the rules relating to proportionality found in Additional Protocol I, with a specific emphasis on damage to 'cultural property' as defined in the 1954 Convention. It prohibits attacks expected to cause damage to cultural property that is excessive in relation to the concrete and direct military advantage anticipated, and requires parties to cancel or suspend an attack if it becomes apparent that the attack would violate the rule of proportionality as framed in the Protocol.¹¹⁸
144. Neither the 1954 Convention nor the Protocol states whether cultural property, as defined, is a civilian object. While in the majority of cases it will be, there may be circumstances in which cultural property, by virtue of its nature, may in fact constitute a military objective. This includes, for example, historic fortresses, barracks, arsenals and other historic property constructed for military ends. If decommissioned, however, such property is better characterized by its nature as a historic monument and therefore considered a civilian object –

¹¹⁵ Rule 45 ICRC CLS considers that the provisions reflect customary law. For the contrary view, see, for example, Belliger, J. and Haynes, W. (2007), 'A US Government Response to the International Committee of the Red Cross Study Customary International Humanitarian Law', *International Review of the Red Cross*, Vol. 89, No. 866, June 2007, p. 443; and Hulme, K. (2007), 'Natural Environment', in Wilmshurst, E. and Breau, S. (eds) (2007), *Perspectives on the ICRC Study on Customary International Humanitarian Law*, Cambridge: Cambridge University Press, p. 204.

¹¹⁶ See, for example, Droegge and Tougas (2013), 'The Protection of the Natural Environment in Armed Conflict', p. 32.

¹¹⁷ Article 1(a) 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict. The definition also includes:

- b) buildings whose main and effective purpose is to preserve or exhibit the movable cultural property defined in sub-paragraph (a) such as museums, large libraries and depositories of archives, and refuges intended to shelter, in the event of armed conflict, the movable cultural property defined in sub-paragraph (a);
- (c) centres containing a large amount of cultural property as defined in sub-paragraphs (a) and (b), to be known as 'centres containing monuments'.

¹¹⁸ Articles 7(c) and (d)(ii) 1999 Second Optional Protocol to the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict. On the rule of proportionality and cultural property, see Cultural Property Military Manual, paras 112–15 and 123–24.

which could, like all civilian objects, become a military objective by virtue of its use if it makes an effective contribution to military action. The same holds true of historic bridges, railway stations or ports.¹¹⁹

145. In view of this, the reference to ‘cultural property’ in the provisions on proportionality in the 1999 Protocol should be interpreted as referring to objects that fall within the definition of ‘cultural property’ but that are not military objectives.
146. Without prejudice to the provisions of the Hague Convention and its protocols, the 1977 Additional Protocols to the Geneva Conventions also provide protections for ‘cultural objects and places of worship’. They prohibit acts of hostility directed against the ‘historic monuments, works of art or places of worship which constitute the cultural or spiritual heritage of peoples’.¹²⁰ While there may be circumstances, as noted above, in which cultural property is by its *nature* a military objective, this does not appear to be the case for the objects referred to in the Additional Protocols. The starting presumption – which, as is the case for all civilian objects, can be displaced by virtue of their use or location – is that such objects are civilian objects, and that damage to them must be taken into account in proportionality assessments.
147. The law thus does not require belligerents to include in proportionality assessments damage to cultural property, cultural objects or places of worship that are, or have become, military objectives. However, as discussed above in relation to dual-use objects, many of the other rules of IHL regulating the conduct of hostilities require belligerents to take into consideration the cultural value of objects that may have become military objectives. Similarly, belligerents may be required as a matter of policy to take the cultural value of such objects into account in the targeting decision-making process.

4.4.2 What constitutes ‘damage’ to civilian objects?

148. Treaty law does not specify what constitutes ‘damage’ to civilian objects for the purpose of proportionality assessments. Article 51(5)(b) AP I does not specify a minimum threshold. It refers to ‘damage’ to civilian objects and not ‘destruction’. As is the case for injury, the extent of the damage is taken into account in the weight assigned to it in proportionality assessments.

4.4.3 Weight to be assigned to damage to civilian objects

149. Additional Protocol I identifies the three types of incidental harm to be considered, but does not provide guidance on the weight to be assigned to them when conducting proportionality assessments. It appears reasonable to give greater weight to those objects whose damage or destruction will have the most severe effects on civilians. For example, damage to a dispensary should be given more weight than damage to office buildings.
150. As far as facilities that provide services essential to the survival of the civilian population are

¹¹⁹ Ibid., para 88.

¹²⁰ Article 53 AP I and Article 16 AP II.

concerned – such as medical facilities, electricity-generating and distribution networks, and water treatment systems – particular weight should be given to the damage to the installations *themselves*, in addition to including the deaths and injury expected from their destruction.

151. The weight that is assigned to the damage to civilian objects is also a way of taking into account some of the adverse effects of an attack on the civilian population that do not fall within the scope of incidental harm. For example, displacement of civilians is not mentioned in the rule of proportionality. However, the fact that displacement is likely to occur as a result of an attack expected to destroy civilian homes could affect the weight to be given to that destruction in the proportionality assessment. Damage to civilian homes being used should be given greater weight than that to deserted homes or business premises.
152. The weight to be assigned to the risk of damage to cultural property and the cultural objects and places of worship referred to in the Additional Protocols in proportionality assessments will take into account their cultural value.

4.5 Conclusions and recommendations

- i. The death of, or injury to, all civilians must be considered in proportionality assessments: those under effective control of the enemy and those under the control of the party conducting the attack, including the latter's nationals.
- ii. The harm to civilians that needs to be considered may take the form of injury or disease.
- iii. There is no reason in principle to exclude mental harm from the scope of proportionality assessments. Those involved in the development of collateral-damage estimation methodologies – in particular, medical experts – should look for appropriate ways of considering and quantifying mental harm. Belligerents should find the means to take mental harm into account in proportionality assessments.
- iv. The location of civilian objects, and which party has control over them, is not determinative for the rule of proportionality. The civilian objects whose damage must be considered are those under the control of the enemy, and those under the control of the party conducting the attack.
- v. Those involved in the development of collateral-damage estimation methodologies – in particular, medical personnel – **should look** for appropriate ways of considering and quantifying the risk of mental harm. As scientific understanding of the mental health effects of attacks evolves, methodologies **should be refined**.
- vi. The severity of the expected harm affects the weight to be assigned to it in proportionality assessments.
- vii. Expected damage to an element or elements of the natural environment must be taken into account in proportionality assessments. It is not necessary for the damage to the elements of the natural environment also to cause harm to civilians or civilian objects. Attacks that are intended or expected to cause widespread, long-term and severe damage to the natural

environment are prohibited for states that have ratified Additional Protocol I, regardless of the anticipated military advantage.

- viii. The reference to ‘cultural property’ in the provisions on proportionality in the 1999 Protocol to the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict concerns objects that fall within the definition of ‘cultural property’ but that are not military objectives.
- ix. The extent of damage to civilian objects is taken into account in the weight assigned to it in proportionality assessments. Greater weight should be given to those objects whose damage or destruction will have the most severe effects on civilians.

5. Implementation of the Rule of Proportionality – Some Legal Questions

153. The final chapter of this paper addresses some legal questions raised by the implementation in practice of the rule of proportionality.

5.1 Who must comply with the rule of proportionality?

154. The prohibition in Article 51 AP I on attacks that violate the rule of proportionality is binding on parties to an armed conflict. They must take the necessary measures to ensure compliance with the rule by members of their forces at all levels. These measures include:

- incorporating the rule and the measures necessary to give it effect in military manuals, doctrine and rules of engagement;
- establishing systems to gather and analyse relevant information – as discussed in Sections 3.1.2 and 5.3 – and to ensure that this information is taken into account in the targeting cycle;
- establishing and institutionalizing procedures to ensure proportionality considerations are taken into account throughout the targeting cycle;¹²¹
- conducting ‘lessons learned’ processes as soon as possible after attacks, to inform future attacks;
- conducting an assessment of attacks when the rule may have been violated;
- addressing the rule in training materials and scenario-based exercises; and
- making legal advisers available to advise military commanders at the appropriate level.¹²²

155. States parties to armed conflict are likely to be in a better position than organized armed groups to take some of these measures. However, the latter are under the same obligation to refrain from attacks that violate the rule of proportionality, and to take necessary measures to ensure compliance with it by their forces.

156. Article 57 AP I takes the unusual approach of addressing an obligation to specific people.¹²³ Those who plan or decide an attack are obliged to take a number of precautions. They include doing everything feasible to verify that an attack against a military objective is not prohibited because, among other things, it would violate the rule of proportionality, and to refrain from

¹²¹ ILA Study Group Report, p. 34.

¹²² Article 82 AP I.

¹²³ This is unusual but not unique. For example, Article 56 GC III imposes responsibilities on ‘the camp commander’.

launching an attack if it would violate the rule of proportionality.¹²⁴ The reference to specific people, coupled with the inherent complexity of conducting proportionality assessments, has led to discussions on whether the rule only binds members of an armed force or organized armed group who have a minimum level of seniority.¹²⁵

157. There is no reason to limit the rule in this manner. As noted above, the prohibition in Article 51 AP I is binding on parties to an armed conflict. It must be complied with by all their organs and by those acting on their behalf. Every attack decision must comply with the rule: during deliberate targeting, dynamic targeting and combat engagement. What will differ with context and seniority is what can be demanded in terms of collection and analysis of information on the expected incidental harm and anticipated military advantage, and the sophistication of the proportionality assessments.
158. This is the position as a matter of law. Authorization from a specific level of command may be required as a matter of policy when expected incidental harm reaches particular levels.¹²⁶ This may allow a more refined analysis of the different elements, but such authorization cannot render lawful an attack that would otherwise violate the rule of proportionality.¹²⁷

5.2 Cancellation or suspension of an attack

159. Article 57(2)(b) AP I requires attacks to ‘be cancelled or suspended if it becomes apparent’ that they would violate the rule of proportionality. The same question arises as to who must comply with this obligation. There is no reason as a matter of treaty text or principle to limit its application to members of belligerents’ forces who have a minimum level of seniority. All those who are in a position to determine, even once an attack has been launched but at a time when it can still be cancelled or suspended, that it is apparent that the attack would violate the rule of proportionality must comply with it.¹²⁸ This includes those planning or deciding an attack and

¹²⁴ Articles 57(2)(a)(i) and 57(2)(a)(iii) AP I respectively.

¹²⁵ Switzerland made a reservation upon ratification noting that Article 57(2) AP I only created obligations for ‘commanding officers at the level of battalion group or above’, but withdrew this in 2005.

¹²⁶ See, for example, NATO Standard AJP-3.9 Allied Joint Doctrine for Joint Targeting, April 2016, 0122, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/628215/20160505-nato_targeting_ajp_3_9.pdf; and European Union Military Committee (2016), *Avoiding and Minimizing Collateral Damage*, para 43.

¹²⁷ See, for example, Australia Department of Defence (2009), *Australian Defence Doctrine Publication 3.14, Targeting*, para 3.31:

[i]n the context of any target approval authorities contained in the [Targeting Directive], it is important to note that the legitimacy of a target or method of targeting under LOAC is a separate issue to the policy question of who is authorised to approve the targeting of a particular military objective.

See also MAMW, Commentary to Rule 14, para 16:

[n]ational or policy requirements to seek approval of a specified level of command whenever collateral damage reaches a predetermined level are not a substitute for the application of the principle of proportionality in accordance with the law of international armed conflict. A decision by higher echelons to approve a planned attack will not render lawful an attack which violates Rule 14.

¹²⁸ See, for example, UK Military Manual, para 5.32.9:

[t]he level at which the legal responsibility to take precautions in attack rests is not specified in Additional Protocol I. Those who plan or decide upon attacks are the planners and commanders and they have a duty to verify targets, take precautions to reduce incidental damage, and refrain from attacks that offend the proportionality principle. Whether a person will have this responsibility will depend on whether he has any discretion in the way the attack is carried out and so the responsibility will range from commanders-in-chief and their planning staff to single soldiers opening fire on their own initiative. Those who do not have this discretion but merely carry out orders for an attack also have a responsibility: to cancel or suspend the attack if it turns out that the object to be attacked is going to be such that the proportionality

also those who are solely executing it. This obligation neither entitles nor obliges those conducting an attack to carry out a new proportionality assessment on the basis of the *same facts* as those who planned or decided it – i.e. replacing the original assessment with their own assessment of whether the expected incidental harm would be excessive. It does require them to cancel or suspend the attack if, on the basis of new facts or for any other reason, it becomes apparent to them that it would violate the rule.

160. In practice, however, in order to determine whether an attack would violate the rule of proportionality, it is necessary to have information on all elements of the assessment – the expected incidental harm and the anticipated military advantage from the attack as a whole – and also to have the capacity to make a determination as to whether the incidental harm would be excessive. There may be circumstances in which it will be apparent to those executing an attack that the incidental harm is likely to be more extensive than was expected and taken into account when planning the attack – for example, if it becomes evident that civilians were unexpectedly located within a military objective. Frequently, however, those conducting the attack will not be in possession of all the information necessary to determine whether the attack would violate the rule of proportionality.¹²⁹ In some circumstances, only more senior staff or those involved in the planning of the attack will have information on the anticipated military advantage anticipated from the attack as a whole, and on the expected incidental harm associated with it.
161. Whether or not those executing an attack will have this information will depend on the nature and the context of the attack. While both incidental harm and military advantage may be apparent during combat engagement, this is less likely to be the case when an attack is made up of a number of concerted strikes.
162. A further consideration is the interplay between the IHL obligation to cancel or suspend an attack and the military duty to obey instructions. This duty is, of course, subject to the obligation not to obey manifestly unlawful orders; and there may also be some latitude in how orders are implemented.¹³⁰ While those executing an attack are unlikely to have the authority¹³¹ – or competence – to ‘revise’ proportionality assessments carried out by those

rule would be breached.

See also ICRC Commentary to the APs, para 2220; and MAMW, Commentary to Rule 14, para 15.

¹²⁹ This is noted, for example, in the commentary to MAMW, Commentary to Rule 35, para 5:

[i]t must be borne in mind that aircrews may have more or less information than others involved in the planning or execution of attacks, depending on the circumstances of the case. ... If on-site information makes it clear to the aircrews that any one of the three conditions of this Rule applies, they have to cancel or suspend the attack on their own initiative.

¹³⁰ In Israel, for example:

‘[p]ilots retain the discretion to abort a mission if their own observation of the target indicates that the unanticipated presence of civilians or civilian objects in the target area requires the attack to be cancelled on the basis of a change in proportionality. The IDF stresses this responsibility, and the responsibility to take feasible precautions in attack, to pilots in their training.’

Schmitt and Merriam (2015), ‘The Tyranny of Context’, p. 81.

¹³¹ This consideration is reflected in the reservation to Article 57(2) AP I made by the UK upon ratification of Additional Protocol I:

[t]he United Kingdom understands that the obligation to comply with paragraph 2(b) only extends to those who have the authority and practical possibility to cancel or suspend the attack.

See also UK Military Manual, 5.32.10.

planning the attack, they must nonetheless cancel or suspend an attack if becomes apparent that it would violate the rule of proportionality.

163. In recognition of these complexities, the obligation to cancel or suspend an attack only arises if it becomes ‘apparent’ that the rule would be violated. The word ‘apparent’ sets a high threshold. In circumstances that fall below this threshold, those executing an attack who become aware of facts that they believe could affect the proportionality assessment must report this to those coordinating the operation, so that such information can be taken into account. Systems should be put in place to ensure that it is possible for all those conducting or involved in attacks to provide this information – including those of less senior rank.
164. The frequency with which a proportionality assessment must be conducted in the course of an attack depends on the context and nature of the attack. The execution of attacks that involve deliberate targeting by armed forces is a component in a continuous loop in which targets are identified, how and when to attack them is assessed, additional pre-strike controls are carried out to confirm target verification, and proportionality assessments are conducted until the last possible moment before the attack is carried out. In addition, following an attack, its effectiveness is assessed.¹³² In such operations, particularly in the case of airstrikes, it may be possible for those conducting an attack or others to obtain information that may affect the lawfulness of the attack, in terms of verification and compliance with the rule of proportionality, and to feed it back to those directing the operation.
165. Belligerents must do what is feasible to monitor the battlefield constantly and to update the basis on which proportionality assessments are conducted to take changes into account. What is feasible in terms of verification once an attack has been launched varies in different types of attacks: those conducted by air or land forces, during combat engagement, or by forces with less sophisticated systems.
166. When those executing attacks become aware of information that may affect the proportionality assessment and report it back to those who are coordinating the operation, the result should be that the attack will be interrupted. This will comply with the obligation in Article 57(2)(a)(i) AP I to do everything feasible to verify that an attack does not violate the rule of proportionality, and also to comply with the overarching obligation in Article 57(1) AP I to take constant care to spare the civilian population.

5.3 Collection and use of ‘reasonably available information’

167. Belligerents can take a number of steps to comply with the obligation to do everything feasible when planning or deciding on an attack to verify that it complies with the rule of proportionality.¹³³ As indicated in Section 3.1.2, the information that the belligerent has at its disposal plays a key role in the ability to foresee incidental harm.

¹³² See Schmitt and Merriam (2015), ‘The Tyranny of Context’, pp. 76–78.

¹³³ Article 57(2)(a)(i) AP I.

168. Belligerents should have a system in place to effectively gather and analyse relevant information.¹³⁴ This should include information in the public domain, information that can be acquired by the belligerents' intelligence-gathering systems, and information based on past practice. The level of refinement of the analysis – that is, what information a belligerent can reasonably be expected to have, and therefore what incidental harm can be considered as reasonably foreseeable – will depend on the circumstances in which an attack is planned or conducted.
169. Recognizing that belligerents have different capabilities and resources, the units responsible for planning attacks must do everything feasible to have access to information and analysis on a range of factors that can affect incidental harm, and must make use of this information in their assessments. This information includes:
- **The location of civilians and civilian objects**, including infrastructure that provides essential services to the civilian population. This includes data on population location and density, daytime and night-time activities, and 'urban patterns and rhythms'. Specific information must be sought on the areas surrounding intended targets, and the potential presence of civilians and civilian objects within the effective range of the weapons that will be employed in an attack.
 - **Weapons**. The choice of weapons to be used in attacks is critical to their impact on civilians and civilian objects. Key information to consider includes the weapons' yield (i.e. size), type (guided or not), warhead (for example, blast or fragmentation) and fuse, as well as estimates of the percentage of cluster sub-munitions expected to fail to detonate on impact.¹³⁵
 - **Structural engineering information**. This includes information on the construction and composition of targets and civilian objects, as this will affect the extent to which they are susceptible to damage by attacks and may themselves cause damage from fragments. It also includes information on the effects of attacks on infrastructure that provides essential services to the civilian population, and on the impact of damage to such infrastructure on services, infrastructure and systems in the areas where the attacks will be carried out.

¹³⁴ *Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia* (2000) para 29, <http://www.icty.org/x/file/Press/nato061300.pdf> noted that in order to comply with the obligation to take feasible precautions:

... [a] military commander must set up an effective intelligence gathering system to collect and evaluate information concerning potential targets.

The report was probably referring to the first part of Article 57(2)(a)(i) AP I, which requires belligerents to verify that the objectives to be attacked are not civilian. However, the obligation to verify also requires them to ensure the attack would not violate the rule of proportionality. Setting up this information-gathering system is also key to that.

See also European Union Military Committee (2016), *Avoiding and Minimizing Collateral Damage*:

21. In order to avoid and minimize Collateral Damage in EU operations, the force commander will rely strongly on Knowledge development, Intelligence and an up-to-date Situation awareness that he will have to manage very accurately.

¹³⁵ See, for example, Cross, K., Dullum, O., Jenzen-Jones, N. R. and Garlasco, M. (2016), *Explosive Weapons in Populated Areas: Technical Considerations Relevant to their Use and Effects*, Armament Research Services (ARES), pp. 40–46. This information is also critical to the obligation under Article 57(2)(a)(ii) AP I to take all feasible precautions in the choice of means and methods of attack to avoid and in any event to minimize incidental harm.

Consideration must also be given to the effect of previous military operations on such infrastructure.

- **Medical and public health information** on the likely health effects of attacks. These include the possible consequences of the use of toxic weapons; and the effect of the interruption of power supply on hospitals or water treatment facilities in the state where the attack will be conducted. Consideration should also be given to the possible mental harm caused by attacks.
- **Cultural property** in the state where the attacks will be conducted.¹³⁶
- Information on the possible consequences of the attacks on elements of the **natural environment**.¹³⁷
- **The particular circumstances of the state** where the attacks will be carried out, insofar as this is relevant to the consequences of an attack – for example, if the state is subject to UN or other sanctions, blockades or other measures that could restrict its ability to repair damaged infrastructure.

170. Collection and analysis of – and, importantly, recourse to – this information are most likely to be feasible at the planning phase of pre-planned attacks. However, key elements of such information should also be reflected in tactical directives and operation-specific rules of engagement, as appropriate, so that they can also influence dynamic targeting.

171. Valuable information on the effects of attacks, including incidental harm, can come from reviews conducted by belligerents after attacks. The aim of collecting information on the incidental harm actually caused at this stage of the process is not to assess the lawfulness of the attack, but to provide guidance for future attacks. Information on the harm that was actually caused can help estimate incidental harm more accurately for future attacks, and thus refine proportionality assessments. After-action reviews should be conducted as soon as possible after attacks, so that their conclusions can inform the targeting cycle in the course of an operation.

¹³⁶ See, for example, Cultural Property Military Manual, para 122:

[b]est practice demands that the proximity and significance of cultural property form integral and duly-weighted elements of any CDE. Only through the routine availability to and appropriate assessment by targeting decision-makers of the location, configuration, construction, and historical, artistic or architectural importance of nearby cultural property can incidental damage to such property be avoided or in any event minimised. Indeed, best practice strongly suggests that the proximity to a military objective of cultural property be grounds for placing the objective on a restricted-target list, according to which any attack on the objective must be conducted under stringent conditions as to means and method.

¹³⁷ See, for example, US Joint Publication 3-06, *Joint Urban Operations*, 20 November 2013, III-11:

(b) In urban concentrations of people and infrastructure, the potential for serious environmental consequences is typically greater than in less populated areas. To accurately predict the environmental damage and its consequences that may occur as a result of attacks, planners require expert advice in the particular areas concerned.

-
172. Some states' armed forces conduct battle damage assessments to determine the military impact of operations. As part of this process, some armed forces also consider incidental harm,¹³⁸ though at present information on the adverse impact of attacks on civilians is not collected and analysed systematically.¹³⁹ Belligerents should include incidental harm in battle damage assessment methodologies, recognizing that there may be circumstances in which it might not be feasible to collect this information.
173. Information gathered on the military impact of attacks is also relevant to proportionality assessments. It can reveal the accuracy of belligerents' estimates of anticipated military advantage. If this is frequently overestimated, changes to the planning methods may be warranted. These findings do not affect the lawfulness of attacks that have already taken place. They may, however, indicate that in future attacks the weight to be given to anticipated military advantage may have to be altered, and thus the proportionality assessment recalibrated, so that it is based on a more realistic projection of the military advantage that arises. Obviously, the converse also holds true, if military advantage is actually underestimated or incidental harm overestimated.
174. If armed forces become aware of a potential violation of IHL in the course of battle damage assessments, or from other sources, they will be required to review the attack.¹⁴⁰ Information gathered in such exercises can also play an important role in assisting belligerents to understand the nature and extent of incidental harm caused by particular attacks, and to adjust future practice as necessary.
175. Similarly, belligerents should address incidental harm in broader 'lessons learned' exercises,

¹³⁸ Australia systematically collects this information. See Australia Department of Defence (2009), *Australian Defence Doctrine Publication 3.14, Targeting*, para 4.32:

[c]ollateral assessment. Collateral assessment is the understanding of the actual collateral damage caused by the use of lethal and non-lethal weapons and it is necessary to fully understand the consequences of own action. Collateral assessment measures actual collateral damage against the assessed pre-attack CDE, to determine what undesired effect occurred that may require consequence management.

In relation to operations in Iraq and Syria in 2017–18, the Australian Department of Defence stated:

[p]rior to any air strike, Australia's Air Task Group undertakes a detailed and robust mission planning effort that includes approvals from Australian and Iraqi authorities. Once a mission is complete and the aircraft have returned a thorough review of each individual weapon strike is conducted to ensure that it was consistent with pre-strike approvals. If an issue is identified in this review or a credible claim of civilian casualties is made an assessment will be undertaken by the Air Task Group commander and formally reported through the chain of command.

<http://www.defence.gov.au/Operations/Okra/FortnightlyReports.asp>.

See also European Union Military Committee (2016), *Avoiding and Minimizing Collateral Damage*:

47. Assessment is required in order to understand what has really happened but also to facilitate future decision-making process, evaluate ongoing activities, identify potentially necessary changes to the training plan, OPLAN and relevant implementing directives, and to face media reports or rumours.

...

49. The Collateral Damage assessment must occur continuously and complements assessing battle damage and monitoring, analysing, and recommending action. Assessments include immediate reviews after incidents, as well as in-depth analysis to examine trends over time. Similarly, after initial casualty reports, investigations and analyses should lead to thorough reports of findings.

¹³⁹ The military doctrine of some armed forces that do conduct battle damage assessments expressly foresees the possibility of these assessments also being used to understand the effects of an operation on civilians. See, for example, US Army (2015), *Army Techniques Publication, 3-07.6 Protection of Civilians (October 2015)*, paras 5-58 and 5-59.

¹⁴⁰ See, for example, European Union Military Committee (2016), *Avoiding and Minimizing Collateral Damage*, para 38(g):
[i]n all situations in which there has been a possible case of Collateral Damage, there is an absolute requirement for a complete assessment to be undertaken in order to determine whether genuine mistakes may have been made, and to quickly establish the facts surrounding the incident.

including information on the harm caused in past attacks, in order to further refine proportionality assessment methodologies.¹⁴¹ If any such processes reveal information on incidental harm, this becomes ‘available information’ which must be taken into account in future proportionality assessments.

5.4 Conclusions and recommendations

- i. Belligerents must take the necessary measures to ensure compliance with the rule of proportionality by members of their forces at all levels and in all circumstances. These measures can include:
 - incorporating the rule and the measures necessary to give it effect in military manuals, doctrine and rules of engagement;
 - establishing systems to gather and analyse relevant information and to ensure that this information is taken into account in the targeting cycle;
 - establishing and institutionalizing procedures to ensure proportionality considerations are taken into account throughout the targeting cycle;
 - conducting ‘lessons learned’ processes as soon as possible after attacks, to inform future attacks;
 - conducting an assessment of attacks when the rule may have been violated;
 - addressing the rule in training materials and scenario-based exercises; and
 - making legal advisers available to advise military commanders at the appropriate level.
- ii. The rule of proportionality is binding on parties to an armed conflict and must be complied with by all their organs and those acting on their behalf. Every attack decision must comply with the rule: during deliberate targeting, dynamic targeting and combat engagement. What will differ with context, and the seniority of decision-makers, is what can be considered reasonable in terms of (a) the collection and analysis of information on expected incidental harm and anticipated military advantage, and (b) the sophistication of the proportionality assessments.
- iii. All members of belligerents’ forces who are in a position to determine, even once an attack has been launched but at a time when it can still be cancelled or suspended, that it is apparent that the attack would violate the rule of proportionality must cancel or suspend it.

¹⁴¹ See, for example, European Union Military Committee (2016), *Avoiding and Minimizing Collateral Damage*, para 23: EU should develop relevant lessons learned ... concerning avoiding and minimizing Collateral Damage. This will be an important tool to help develop future methodologies and procedures for EU-led military operations.

- iv. In addition, those executing an attack who become aware of facts that they believe could affect the proportionality assessment must report this to those coordinating the operation, so that the new information can be taken into account. Systems **should be put in place** to ensure that it is possible for all those conducting or involved in attacks to provide such information.
- v. Belligerents **should have** a system in place to effectively gather and analyse information on incidental harm. This **should include** information in the public domain, information that can be acquired by the belligerents' intelligence-gathering systems, and information based on past practice. Recognizing that belligerents have different capabilities and resources, the units responsible for planning attacks must do everything feasible to have access to information and analysis on a range of factors that can affect incidental harm, and must make use of this information in their assessments.
- vi. Belligerents **should include** incidental harm in battle damage assessment methodologies, recognizing that there may be circumstances in which it might not be feasible to collect this information. After-action reviews **should be conducted** as soon as possible after attacks, so that their conclusions can inform the targeting cycle in the course of an operation. Incidental harm **should also be addressed** in broader 'lessons learned' exercises, including information on the harm caused in past attacks, in order to further refine proportionality assessment methodologies.

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