

UNIVERSITY OF ESSEX

DISSERTATION

SCHOOL OF LAW

LLM IN: INTERNATIONAL HUMANITARIAN LAW

STUDENT'S NAME: PETER WIELTSCHNIG

SUPERVISORS'S NAME: PROFESSOR NOAM LUBELL

DISSERTATION TITLE

The Operationalisation of Economic, Social and Cultural Rights in Military Targeting Practices  
During Armed Conflict

COMMENTS: (PLEASE WRITE BELOW YOUR COMMENTS)

**MARK:**

**SIGNATURE:**

**DATE:**

UNIVERSITY OF ESSEX

SCHOOL OF LAW

*LLM in International Humanitarian Law*

2018-2019

*Supervisor: Professor Noam Lubell*

DISSERTATION

*The Operationalisation of Economic, Social and Cultural Rights in Military Targeting  
Practices During Armed Conflict*

**Name: Peter Wieltschnig**

**Registration Number (optional): 1802806**

**Number of Words: 19,993**

**Date Submitted: 6 November 2019**

## Chapter 1 - Introduction

### a. Economic, social and cultural rights in armed conflict

Armed conflicts have the potential to decimate communities, not just through the death, injury and destruction that are observable in the immediate aftermath of an attack but through the undermining of societal integrity as a whole. The economic, social and cultural (ESC) well-being of individuals and entire populations may be impeded in such a manner that the first-tier harms of conflict cascade and compound with existing vulnerabilities. Particularly in protracted armed conflicts where community resilience is especially depleted, the effects of an attack may be amplified, as services and infrastructure, such as medical facilities and water supply networks, are weakened or destroyed.<sup>1</sup> Conflicts ranging from eastern Ukraine,<sup>2</sup> to the Democratic Republic of Congo<sup>3</sup> and the Gulf Wars,<sup>4</sup> among many others, have demonstrated that impacts on the ESC rights of a community are capable of causing greater harm than the first-tier impacts of a military attack. Whilst discussions on the application of international human rights law (IHRL) in armed conflict have largely centred around civil and political rights,<sup>5</sup> the relevance of ESC rights in conflict is undeniable. IHRL has been designed to include specific protections for these fundamental features of human life, ranging from the right to health, work, an adequate standard of living including access to food, clothing, water and housing, as well as the right to physical and mental health, social security, a healthy environment and education among other such rights.<sup>6</sup> In their entirety, armed conflicts can impede and infringe on the realisation of each right across this list.

The scope of ESC rights in conflict should be given specific attention, not only due to the significant humanitarian cost of infractions, but also due to the instability that arises from the failure to respect ESC

---

<sup>1</sup> Graham, S., *Cities Under Siege: The New Military Urbanism*, (London: Verso, 2010), pp.263-264.

<sup>2</sup> Harvard Law School International Human Rights Clinic, PAX, 'Operating under Fire Cover: The Effects of Explosive Weapons on Health Care in the East of Ukraine,' Report, May 2017, p.1.

<sup>3</sup> Burnet Institute, International Rescue Committee, 'Mortality in the Democratic Republic of Congo: An Ongoing Crisis', Report, May 2007, p.14.

<sup>4</sup> Cronin, B., *Bugsplat: the politics of collateral damage in western armed conflicts* (Oxford University Press, 2018), p.143

<sup>5</sup> Mottershaw, E., 'Economic, social and cultural rights in armed conflict: International human rights law and international humanitarian law,' *International Journal of Human Rights*, (2008) 12(3), pp.449-470, p.449.

<sup>6</sup> See UNGA, International Covenant on Economic, Social and Cultural Rights, 16 December 1966, UNTS, vol. 993, p. 3, (hereafter 'ICESCR').

rights can result in the outbreak of further conflict in due course.<sup>7</sup> In this sense, attempts to incorporate the protection of ESC rights can enhance military objectives of enhancing peace and stability within a region.<sup>8</sup>

In recognising the harms that arise from conflict, and the need to protect the ESC integrity of the population in times of conflict, international humanitarian law (IHL) has incorporated a number of essential protections into its remit. Provisions covering the protection of cultural property,<sup>9</sup> prohibitions on the starvation of the civilian population,<sup>10</sup> and the respect for medical personnel and facilities<sup>11</sup> amongst other such concerns populate the laws of war. However, the IHL regime that covers these issues does so in a piecemeal fashion, utilising discrete and often extremely specific provisions. It is here that IHRL can potentially confer a wider level of protection, diffused across the law of armed conflict as a whole.

Nevertheless, where the guiding legal frameworks overlap within conflict settings, the question of how ESC rights apply in practice in conflict settings is unclear.<sup>12</sup> This thesis will place a particular focus on ESC rights in active hostilities, namely, within military targeting practices, as this remains one of the areas in which the legal frameworks of IHL and IHRL will contain the greatest divergence. However, it will be argued that IHRL in relation to ESC rights will help to hone our understanding of the scope of military obligations under the law of targeting, with an emphasis on the reverberating effects of attacks, where considerable ambiguity remains, and ESC rights can provide a meaningful contribution. It should be noted that while the application of ESC rights outside of active hostilities, particularly within situations of occupation, are of great importance, they will be largely outside the scope of the present work.

---

<sup>7</sup> OHCHR, *Protection of Economic, Social and Cultural Rights in Conflict*, Report, 2015, p.2.

<sup>8</sup> Wille, C., *Implications of the Reverberating Effects of Explosive Weapons Use in Populated Areas for Implementing the Sustainable Development Goals*, United Nations Institute for Disarmament Research (UNIDIR), 2016, p.1.

<sup>9</sup> See: ICRC Customary IHL: Rules 38, 39 & 40, accessible at: [https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2\\_rul](https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2_rul).

<sup>10</sup> See: CRC, Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977, 1125 UNTS 3, (henceforth 'API'), Article 54(1).

<sup>11</sup> See: ICRC Customary IHL: Rules 25, 26 28, 29, 35, accessible at: [https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2\\_rul](https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2_rul).

<sup>12</sup> Mottershaw, *note 5*, pp.464-465.

## Chapter 2 - The Protection of ESC rights in IHL

### ***a. How does IHL protect ESC rights?***

IHL, as a whole, provides a legal framework to limit and ameliorate the impacts of conflict. In this sense, IHL paves the path to limit the destruction of infrastructure and other objects essential to the realisation of ESC rights within conflict zones. As such, IHL can assist States in meeting their obligations to realise ESC rights through the recovery of the area from conflict and the continued functioning of services.<sup>13</sup> Further, IHL helps to guarantee the substance - if not the label - of ESC rights through a variety of more specific provisions. These provisions address 'aspects or components' of substantive ESC rights, such as access to adequate food, water and sanitation, education, health, social security, work and employment, protection of the family, protection of natural resources, protection of the environment, and the right to take part in the cultural life of the community.<sup>14</sup> However, ESC considerations can be severely impacted beyond the immediate temporal realm of the attack. The knock-on effects of an attack (i.e. the secondary or tertiary impacts that may not be immediately realised) can echo throughout the operational environment, causing widespread harm. This is particularly the case in regard to infrastructure, 'an underlying issue that affects everything,'<sup>15</sup> and is essential for a number of core ESC rights, such as the right to an adequate standard of living and to health. As these knock-on effects manifest after the initial attack, the question arises as to how they are captured within the current IHL provisions. Additionally, IHL is distinct from IHRL, and despite the aforementioned protections, it can also allow for serious infringements of human rights in certain circumstances. From this point, it is necessary to understand the nature of the law of targeting within IHL, which acts as one of the primary arenas in which such infringements may occur.

---

<sup>13</sup> Giacca, G., *Economic, Social and Cultural Rights in Armed Conflict*, (Oxford: Oxford University Press, 2014), p.174

<sup>14</sup> *Ibid*, pp.173-4

<sup>15</sup> Weinthal, E. & Sowers, J., 'Targeting infrastructure and livelihood in the West Bank and Gaza' (2019) 95:2, *International Affairs*, 319-340, p.321.

## ***b. The law of targeting under IHL***

The law of targeting underlines military activities in active hostilities, representing the strictures on the process of applying combat power to disable, degrade or harass enemy capabilities<sup>16</sup> in an attempt to achieve the strategic interests of the military operation.<sup>17</sup> Whilst international humanitarian law recognises the right of military actors to use legitimate violence to achieve these strategic interests, the law of targeting also acts to embed humanitarian concerns into military attacks. In this respect, it demands that military actors endeavour to distinguish between combatants and civilians not directly participating in hostilities, and between military and civilian objects.<sup>18</sup> Moreover, a number of provisions help to restrain the resultant harms, such as limitations on the targeting of works and installations containing dangerous forces,<sup>19</sup> or restrictions on the means and methods of warfare, such as those causing superfluous injury and unnecessary suffering even where the intended victim is a hostile combatant.<sup>20</sup> Given the general clarity of these specific provisions, this thesis will focus on proportionality assessments and precautionary measures within targeting processes where ambiguity remains.

It is important to note that the rules of targeting contained within Additional Protocol I (henceforth 'API' or 'the Protocol') are recognised as part of customary international law, applicable in land, air and naval warfare (though targeting at sea entails additional rules that are outside the scope of the present work).<sup>21</sup> Resultantly, they remain applicable regardless of whether a State is party to API, and apply in international and non-international armed conflicts alike.

### *i. Proportionality assessments*

API appreciates that conflict will likely involve some degree of incidental harm and damage to civilian objects, and as such, incidental harm does not in-and-of-itself render the attack unlawful.<sup>22</sup> The

---

<sup>16</sup> Corn, G., & Corn, G., 'The Law of Operational Targeting: Viewing the LOAC Through an Operational Lens,' (2011) 47: 2, *Texas International Law Journal*, 337-380, p.342.

<sup>17</sup> Boothby, W.H., *The Law of Targeting*, (Oxford: Oxford University Press, 2012), p.4.

<sup>18</sup> *Ibid*, p.6.

<sup>19</sup> API, Article 56.

<sup>20</sup> API, Article 35(2).

<sup>21</sup> Schmitt, M, 'Targeting in Operational Law' in Gill, T.D., & Fleck, D. (eds.) *The Handbook of the International Law of Military Operations* (2nd edn.). Oxford: OUP Oxford, 2015), p.270.

<sup>22</sup> Boothby, note 17, p.94.

permission of incidental harm is not, however, unlimited. The Protocol demands that incidental harms which 'may be expected' as a result of a military attack are balanced with the anticipated concrete and direct military advantage, and rendered unlawful where the attack causes disproportionate civilian harm in comparison to the military advantage.<sup>23</sup> Whilst the scope of such advantages is contested,<sup>24</sup> there is agreement that military advantages should be 'concrete and perceptible' rather than merely 'speculative and hypothetical.'<sup>25</sup> Any calculation of military advantage that is removed from the operational and tactical aspects of an attack will become increasingly more speculative and hypothetical, disallowing the tenuous advantage for the purpose of the assessment. Despite contestations,<sup>26</sup> more permissive interpretations that allow for the victory of the military campaign as a whole to be interpreted as the advantage are generally agreed to be prohibited within this provision, to limit justifications of civilian harm.<sup>27</sup>

While the proportionality equation provides a useful framework for prohibiting clearly disproportionate attacks, it is less useful in instances where the proportionality of the attack is less obvious. Proportionality assessments contain an inherently subjective component, as there remains no objective manner for measuring the 'value' of military advantage against the harm caused to civilians.<sup>28</sup> Resultantly, the proportionality principle can be seen as of somewhat limited utility in finding violations of IHL after the fact, though it acts to instil humanitarian concerns within the targeting process and as such, is of great procedural value. Therefore, many of the benefits that arise from proportionality assessments are derived from the ability to direct the targeting decision-maker's mind towards civilian harm and development of procedures to be able to conduct the assessment in the first instance.

---

<sup>23</sup> API, Article 51(5)(b).

<sup>24</sup> Goodman, R., 'The Obama Administration and Targeting War-Sustaining Object in Non-international Armed Conflict,' (2016) *American Journal of International Law*, 110:4, 663-679, p.679.

<sup>25</sup> King, I., 'The Legality of Attacking War-Sustaining Economic Objects,' (2018) *Stanford Journal of International Law*, 54:1, 49-82, p.56.

<sup>26</sup> *Ibid*, pp.60-61.

<sup>27</sup> Jachec-Neale, A., *The Concept of Military Objectives in International Law and Targeting Practice*, (Hoboken: Taylor&Francis, 2014), p.117.

<sup>28</sup> Boothby, *note 17*, p.96.

## *ii. Precautionary measures*

The Protocol outlines a number of precautionary measures to be undertaken by attackers during military targeting.<sup>29</sup> Reiterating the core concerns of the principle of distinction contained within Article 48, Article 57(1) demands that 'constant care [is] taken' to spare the civilian population, civilians and civilian objects' in 'the conduct of military operations'. For the purposes of Article 57, military operations appear to refer to the use of force as opposed to 'ideological, religious, or political campaigns.'<sup>30</sup> The remaining provisions within Article 57 delineate necessary measures for the practical realisation of this principle.<sup>31</sup>

Importantly, in relation to article 57(1), the obligation to take constant care to spare the civilian population is not directed at a specific group of personnel involved in the conduct of military operations. From here, the question remains of whether the entailing obligations are diffused throughout the targeting process.

With respect to Article 57(2), discussion has arisen on the level of command at which these obligations manifest.<sup>32</sup> At the time of ratification, Switzerland held that article 57(2) creates an obligation for commanders at battalion level or higher, excluding the lower levels of command due to the assertion that they would not have the requisite level of information.<sup>33</sup> Whilst Rogers holds that the level of command at which the obligations arise is dependent on the context of the operation when read in its wider sense,<sup>34</sup> Dinstein argues that the primary obligation to ensure that the military is targeting a military objective 'devolves on relatively high echelons' as they have the necessary level of information.<sup>35</sup> The ICRC's commentary on API, however, holds that an obligation exists on the military high command to provide sufficient instruction to lower ranks so that they may comply with the obligation.<sup>36</sup> By locating the core of the responsibility at the higher level, this interpretation recognises

---

<sup>29</sup> API, Article 57.

<sup>30</sup> Boothby, *note 17*, p.119.

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> Boothby, *note 17*, p.119.

<sup>34</sup> Rogers, A.P.V., *Law on the battlefield*, (2nd edn.) (Manchester: Manchester University Press, 2004), pp.28-9.

<sup>35</sup> Dinstein, Y., *The Conduct of Hostilities under the Law of International Armed Conflict*, (2nd edn.), (Cambridge : Cambridge University Press, 2010), p.140.

<sup>36</sup> ICRC, API Commentary, section 2197.



that lower level commanders will be unable to balance factors that they are not privy to,<sup>37</sup> and can be read as requiring a greater level of caution at the strategic as opposed to the tactical level.

Nevertheless, Article 57(2) is directed at those 'who plan or decide upon an attack,' seemingly extending the obligation across all ranks. Boothby holds that this phrase 'would seem to include, *inter alia*, anyone who fires a weapon as part of the attack, anyone who directs a munition such as a rocket; missile, or bomb, anyone who plans the attack at the tactical level, those on whose orders the particular attack proceeds, and those who approve the attack plan.'<sup>38</sup> This provides a potentially broad remit for the precautionary measures' obligations.

Whilst containing a number of obligations, such as the verification of objects, and the obligation to give warnings, Article 57(2)(a)(ii), (iii) and (b) are of particular importance in relation to the protection of the ESC rights of the civilian population. Though it does not forbid the infliction of harm to the civilian population, it does attempt to temper it. In this sense, armed groups hold the obligation to undertake feasible precautions in the choice of the means and methods of attack to avoid or mitigate incidental civilian harm, and refrain from, suspend or cancel attacks that would cause disproportionate harm to the civilian population. Whilst leaving room for the discretion on the manner by which armed groups action this obligation, it may affect decisions on the choice of weapons, timing of the attack and the choice of targeted object in order to safeguard the civilian population from harm. However, by demanding 'feasible' precautions, the provision does recognise a limit to the measures to be taken. For instance, due to expense and supply considerations, militaries will be unable to use precision weapons in every instance, and issues such as urgency will determine the extent of the precautionary checks to be made.<sup>39</sup>

### ***c. Reverberating effects in IHL – interpretations***

Though the direct infliction of death, injury, destruction and damage provides a visible and potentially immediate manifestation of the harms of military attacks, the impacts on ESC rights can result in

---

<sup>37</sup> Boothby, *note 17*, p.120.

<sup>38</sup> *Id.*

<sup>39</sup> Boothby, *note 17*, p.124.

considerable suffering as highlighted above. Nevertheless, these impacts may be less obvious in the immediate moment as the negative impacts may only arise over time or through the cumulative effect of attacks over a sustained period of time.<sup>40</sup> Certainly, as demonstrated in the attacks on Iraqi electrical power systems the first Gulf War<sup>41</sup>, the longer-term impacts of an attack may result in higher rates of death, injury and damage to civilian property than the immediate impacts. Increasingly, international attention has come to address these issues,<sup>42</sup> by referring to the 'reverberating effects' of an attack, namely the effects 'that are not directly and immediately caused by the attack, but are nevertheless the product thereof.'<sup>43</sup>

The obligation to take the reverberating effects of an attack into account under IHL remains vague in terms of its nature and scope, resulting in a number of divergent and competing interpretations. Therefore, in attempting to achieve clarity on the existing legal obligations one must look towards the treaty itself as well as the growing body of State practice, which breath life into the Protocol. This section will address how the reverberating effects of an attack are considered within the law of targeting in armed conflict.

#### *i. Legal basis of the law of targeting in IHL*

The Vienna Convention on the Law of Treaties (VCLT) stipulates that the starting point for treaty interpretation will always be the good faith interpretation of the provision in accordance with the ordinary meaning of the terms contained, in light of the object and purpose of the treaty.<sup>44</sup> From the outset, this appears to clearly require the consideration of reverberating effects, though notably, the scope of these obligations, again, remains unclear. This responsibility arises from the inclusion of the phrase 'may be expected' contained within Articles 51 and 57. The drafters of the Protocol refrained from including any specific procedural, spatial or temporal limitations - and in fact expressly rejected language which would

---

<sup>40</sup> Robinson, I., & Nohle, E., 'Proportionality and precautions in attack: The reverberating effects of using explosive weapons in populated areas', (2016) *International Review of the Red Cross*, 98(1), 107-146, p.108.

<sup>41</sup> Crawford, J., 'The Law of Non-combatant Immunity and the Targeting of National Electrical Power Systems,' (1997) *Fletcher Forum of World Affairs*, 21(2), 101- 120, p.110.

<sup>42</sup> Robinson & Nohle, *note 40*, p.108.

<sup>43</sup> Schmitt, M., 'Wired Warfare: Computer Network Attack and Jus in Bello', (2002), *International Review of the Red Cross*, 84(846), 365-400, p.392.

<sup>44</sup> Vienna Convention on the Law of Treaties, 23 May 1969, UNTS, Vol. 1155, (hereafter 'VCLT')Article 31(1).

have restricted incidental harms to those within the immediate vicinity of the military objective.<sup>45</sup> As such, the drafters left the wider harms of an attack within the purview of the provisions. Resulting from this, attempts to confine the remit of relevant effects can appear somewhat artificial.

Further, as per the VCLT, when interpreting a treaty, the context of the treaty will also help to determine how it is to be read, taking account of its object and purpose, and the headings and chapeau provisions contained within the Protocol.<sup>46</sup> In doing so, the humanitarian purpose of API will be significant in ensuring an interpretation with as wide an ambit as possible for any provision that acts to protect civilians in armed conflict situations. This is particularly evident within the heading of Article 51, entitled 'Protection of the Civilian Population,' which holds that civilians 'shall enjoy general protection against dangers arising from military operations.' As well as this, Article 57, within the text of the provision itself, contains a clear humanitarian objective, requiring 'constant care' to 'spare the civilian population, civilians and civilian objects,' pushing armed actors to the ultimate ambition of avoiding any harm to civilians.<sup>47</sup> Within the context of the Protocol, Articles 51 and 57 are placed in proximity with provisions which more explicitly contain protections against the reverberating effects of an attack. Article 54 seeks to protect objects that are indispensable to the survival of the civilian population, and in doing so prohibits the attack, destruction, removal or rendering essential objects such as food stuffs, agricultural areas for the production of foodstuffs, crops, livestock, drinking water-installations and supplies and irrigation works where they are targeted to deny them for sustenance to the civilian population or to the adverse party.<sup>48</sup> This provision is inherently tied to the second and third-tier effects of an attack as opposed to the immediate incidental harms that result from the attack on the object itself. In this respect, the temporal features of this provision are expansive, as it directly considers issues such as the civilian population's migration from the area, a repercussion that may take time to materialise following the impacts on the objects outlined within the provision.<sup>49</sup> Moreover, the desire to include long term effects is reflected within Article 56 which seeks to protect works and installations containing dangerous forces, contains a similar focus on the humanitarian impacts of targeting. Setting out an exhaustive list of works

---

<sup>45</sup> Bothe, M. et al, *New Rules for Victims of Armed Conflicts: Commentary on the Two 1977 Protocols Additional to the Geneva Conventions of 1949*, (Leiden: Martinus Nijhoff, 2013), para. 2.6.2.

<sup>46</sup> VCLT, Article 31(2).

<sup>47</sup> Kalshoven, F., & Zegveld, L., *Constraints on the Waging of War: An Introduction to International Humanitarian Law*, (4th edn.), (Cambridge: Cambridge University Press, 2011), p.113.

<sup>48</sup> API, Article 54(2)

<sup>49</sup> ICRC, 'Explosive Weapons in Populated Areas: Humanitarian, Legal, Technical and Military Aspects. Switzerland: Report of the ICRC Expert Meeting in Chavannes- de- Bogis,' Report, 2015, p.8.

and installations that cannot be targeted, the provision places an emphasis on the knock-on effects of the attack, as opposed to incidental first-tier harm collateral damage caused by the attack itself. Whilst it can be argued that Articles 54 and 56 represent explicitly crafted obligations that cannot be analogised for other provisions, they can nevertheless be used to demonstrate that the reverberating impacts on the civilian community were present in the minds of the drafters.

*ii. State practice and opinio juris*

As demonstrated above, textual analysis of the Protocol suggests that the obligation to include the reverberating effects of an attack into targeting practices exists within Articles 51 and 57. In addition to this, this obligation is increasingly reflected in State practice.<sup>50</sup> The 2006 Third Review Conference on the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects (CCW) heard a number of States emphasise the importance of considering the effects of explosive remnants of war within proportionality assessments, with such effects by their nature being secondary impacts.<sup>51</sup> As a result of such statements, the Final Declaration of the Third Review of the CCW, which was unanimously accepted, held that the foreseeable effects of explosive remnants of war should be factored into proportionality assessments and precautionary measures.<sup>52</sup> Ultimately bolstered by the similar language within the Amended Protocol II of the CCW which explicitly addressed the need to account for long-effects within Article 3(10)(a), this demonstrates that there is a strong international consensus that reverberating effects must be incorporated into targeting practices.

Additionally, reflecting the weight of expert opinion, the ICRC Expert Meeting of States on the use of explosive weapons in populated areas heard a number of States support the position that commanders must take the foreseeable reverberating effects of an attack into account, though notably the practical challenges, such as quantifying the long-term effects of an attack, were voiced.<sup>53</sup> Several participants expressed support for the view that commanders must take into account the foreseeable reverberating

---

<sup>50</sup> Robinson & Nohle, *note 40*, p.115.

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> ICRC, *note 49*, p.23.

effects of an attack, but noted the practical challenges in complying with this obligation, particularly the difficulty of quantifying the long-term effects of an attack. In this respect, one participant cautioned against setting a single standard that would apply in all circumstances. While agreeing that what is foreseeable is not limited in time or space, another participant stressed that it is limited to what is practically foreseeable in the circumstances ruling at the time of the attack.<sup>54</sup>

A number of military manuals have outlined the need to consider impacts that go beyond the immediate first-tier harms resulting from an attack. For instance, the UK military's Joint Service Manual states that any assessment of whether an attack is proportionate should involve the consideration of the foreseeable effects of an attack by the relevant commander, citing an example that contains second-tier impacts of the destruction of a military fuel storage depot on the civilian population.<sup>55</sup> Similarly, the US has produced manuals which refer to the need to consider 'second and third-order effects' of attacks<sup>56</sup> and, along with the Spanish manual,<sup>57</sup> referred to the 'foreseeable' effects of an attack, avoiding language that would appear to create causal, geographic or temporal limitations.<sup>58</sup> However, it is notable that the most military manuals merely echo the language of the Protocol's provisions with no specific reference to the foreseeability of the effects.<sup>59</sup>

### *iii. Determining the scope of the obligation to account for the reverberating effects*

The challenge arising from the need to take the reverberating effects of an attack into consideration revolves around the standard of foreseeability. The cascading effects can continue indefinitely and ricochet across space and time in ways that are unpredictable. However, in order to establish clear and practical guidelines on the rules of proportionality and precautionary measures, a relatively definite standard is necessary. There are various ways in which this can be approached, each resulting in capturing a separate array of reverberating effects. Moreover, an additional consideration remains, namely, the degree to which there is an obligation to actively expand one's knowledge of the effects of

---

<sup>54</sup> *Id.*

<sup>55</sup> UK Ministry of Defence, *the Joint Service Manual of the Law of Armed Conflict*, JSP 383, 2004, amended in 2013, para. 5.33.4.

<sup>56</sup> US Department of the Army, *Counterinsurgency*, FM-24/MCWP 3-33.5, 2006, section 7-36.

<sup>57</sup> Spain, Ministry of Defence, *Orientaciones: El derecho de los conflictos armados*, OR7-004, 18 March 1996, Vol. 1, para. 2.5.

<sup>58</sup> US Department of Defence, *Law of War Manual*, 2015, p.342, note 158.

<sup>59</sup> See ICRC Customary Law Study: State Practice, Rule 14.

an attack. Such a concern is pertinent, as proactive obligations may prevent militaries from circumventing the need to conduct full proportionality assessment by keeping themselves intentionally in the dark, therefore limiting their knowledge on what they may expect as the result of an attack.

#### *iv. Foreseeability*

As highlighted above, the effects of an attack can manifest in ways that are entirely unpredictable. In this respect, the legal standard can attempt to exclude these unpredictable effects by having the obligation bite at the point that a risk is 'foreseeable'.<sup>60</sup> Adopting the standard of foreseeability can therefore provide a reasonable standard, practical and capable of operationalisation. However, such a standard still entails complications - namely the question of when a resulting effect be deemed as foreseeable? Does this arise from the subjective understanding of those involved in the targeting decision-making process, or from an objective test?

Scholars have put forward the suggestion of a strict legal 'but for' test, holding that in order for an effect to be foreseeable, the attack must be the 'proximate cause'.<sup>61</sup> However, this approach has been criticised, in a manner that highlights a considerable flaw within the approach.<sup>62</sup> The 'but for' test is useful when attributing blame for the cause of an effect after the fact, but provide little assistance in predicting the reverberating effects of an attack, therefore compromising it's utility for decision-makers. Where the benefits of proportionality assessments largely arise from instilling humanitarian considerations within processes, an after-the-fact measurement of these harms is of limited utility.

Greenwood has put forward a model by which the likelihood of an effect materialising is the central consideration. Under this test, an effect is deemed to be expected where it more likely to occur than not, i.e. that it has over a fifty percent chance of occurring.<sup>63</sup> However, Nohle and Robinson have directed criticism at this approach, holding that it is an 'overly restrictive interpretation' of the term expected.<sup>64</sup> In

---

<sup>60</sup> Droege, C. & Tougas, M-L., 'The Protection of the Natural Environment in Armed Conflict: Existing rules and need for further legal protection' (2013) *Nordic Journal of International Law*, 82(1), 21-52, p.30.

<sup>61</sup> Schmitt, M., *et al*, Computers and War: the legal battlespace, background paper prepared for the Informal High-level expert meeting on Current challenges to international humanitarian law, Cambridge, 25-27 June 2004, p.9.

<sup>62</sup> Robinson & Nohle, *note 40*, p.118.

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

arguing against this suggestion they posit that Greenwood's approach could potentially ignore significant risks. In this respect, if potential harms that have a forty nine percent chance of occurring are excluded from the proportionality equation, the assessment is reduced to an absurdity.<sup>65</sup> For this reason, setting the threshold as 'reasonable causality' that is able to include foreseeable harms that are expected to arise appears to be a more sensible standard.<sup>66</sup>

*v. Objective/Subjective*

Reverberating effects can be particularly nebulous in their manifestation, requiring detailed technical and expert knowledge on the nature of infrastructure, for instance, which would appear to support the need for objective analysis.<sup>67</sup> However, the nature of the proportionality test (given the need to balance two considerations with metrics that are not directly convertible) and the need for practical and realisable standards within active hostility settings leads itself towards more subjective determinations.

The ICRC Commentary on Article 57 lends support to the objective approach, recognising that whilst there is a degree of subjectivity, 'the interpretation must above all be a question of common sense and good faith for military commanders.'<sup>68</sup> In this respect, Sassóli argues that 'common sense' and 'good faith for military commanders' create objective standards for use in any proportionality assessment.<sup>69</sup> Support of an objective reasonability test has been iterated by scholars and included within the 2001 Canadian Manual on the Law of Armed Conflict.<sup>70</sup> Further, the argument that an objective standard should be utilised is somewhat inherent in the provision itself. By using the phrase 'may be expected' the provision uses language that is not specific to an individual actor, but appears to apply to what may be expected more generally - seemingly pointing towards an objective standard.

What is important in regard to the reverberating effects of an attack is that the complexity of their manifestation may mean that commanders are nevertheless held to a higher standard, particularly, as

---

<sup>65</sup> *Id.*

<sup>66</sup> ICRC, *note 49*, p.15.

<sup>67</sup> Zeitoun, M. & Talhami, M., 'The impact of explosive weapons on urban services: Direct and reverberating effects across space and time,' (2016) *International Review of the Red Cross*, 98(901), 53-70. p.68.

<sup>68</sup> ICRC Commentary to API, section 2208; see also section 1978.

<sup>69</sup> Sassóli, M., 'Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to be Clarified', (2014) *International Law Studies*, 90, 308-340, p.335.

<sup>70</sup> Robinson & Nohle, *note 40*, p.120.

argued by Sassóli and Cameron, ‘a reasonable military commander, [...] aware of the interconnectedness of infrastructure, would be expected to foresee’ effects that may not be obvious to the ‘average reasonable person.’<sup>71</sup> This, however, can still leave a significant gap. Whilst a military commander may have a greater level of knowledge than a lay person, they will only be able to gain this knowledge through specific training and experience.

Supporting the position that an objective standard applies, international criminal law (ICL) case law has crafted the standard of a ‘reasonably well-informed person in the circumstances of the actual perpetrator, making reasonable use of the information available to [them].’<sup>72</sup> Whilst ICL, this standard has been accepted by IHL scholars<sup>73</sup> and appears to reflect a great swathe of the consensus outlined above. Notably, however, this standard is set as that of a ‘reasonably well-informed person’ as opposed to a commander, who may be expected to hold be more informed in regard to the effects of an attack. Nevertheless, it is arguable, that ‘in the circumstances of the actual perpetrator’ may allow for the level of expected knowledge at the rank of the perpetrator to be accounted for.

*vi. Objective foresight of reverberating effects*

The manner by which the reverberating effects of an attack may be objectively foreseeable can include past experience and through the collection of empirical information. Collateral damage estimation methodologies (CDM), used by a number of militaries, such as the Bugsplat tool within US practice, to assist their targeting decision-making, rely on ‘a mix of empirical data, probability, historical observations, and complex modeling for analysis.’<sup>74</sup> Whilst this will not be practically available in every instance of targeting, it helps to demonstrate how objective criteria can provide a strong basis for determining the resulting effects of an attack.

Moreover, the quantitative and qualitative records of past harms can be used individually to inform the process. For instance, statistical data on potential reverberating effects, particularly on harms affecting

---

<sup>71</sup> *Id.*

<sup>72</sup> ICTY, *Prosecutor v Galić*, Case No. IT-98-29, Judgment (Trial Chamber), 30 November 2003, section 58.

<sup>73</sup> Boothby, *note 17*, p.96; Henderson, I., *The Contemporary Law of Targeting: Military Objectives, Proportionality and Precautions in Attack under Additional Protocol I*, (Leiden: Martinus Nijhoff, 2009), p.222.

<sup>74</sup> US Chairman of the Joint Chiefs of Staff, *No Strike and the Collateral Damage Estimation Methodology*, Instruction, (2012) CJCSI 3160.01A, p.D-1.



ESC rights such as the spread of disease can help inform the targeting process by highlighting how such effects have manifested in the past.<sup>75</sup> Such methods have been vital in the international action on cluster munitions, as data was collected on the percentage of unexploded munitions as well as the reported ways in which they affect communities.<sup>76</sup> This position has garnered support from States as exemplified during the third review of the CCW, where States such as Ireland and Norway referred to the reliance on historical observations to guide determinations on foreseeable effects of attacks.<sup>77</sup>

Further, some effects will be foreseeable through the nature of the object itself. This is particularly evident in regard to upstream (such as water treatment and electrical power plants) and midstream infrastructure (such as water reservoirs and transmission lines).<sup>78</sup> Given the fact that such infrastructure is frequently identifiable and located at ground level<sup>79</sup> the second-tier reverberating effects will be easily understood in an uncomplicated manner. Though the third-tier impacts such as those resulting spread of disease arising from their destruction or damage may be difficult to anticipate without expert knowledge, the resulting lack of water, for example, will be objectively foreseeable in some instances.<sup>80</sup>

By utilising such information, the ability to foresee risks is eminently enhanced in an objective manner. In this sense, it is possible to gain a thorough understanding of effects resulting from a range of means and methods of warfare, in a manner that is able to accommodate the wealth of information gathered from militaries, international bodies and civil society organisations.

*vii. Positive obligation to obtain information within precautionary measures*

One of the core issues inherent within this discussion is the obligation to obtain additional information during the targeting process. This will be particularly relevant in relation to the targeting of infrastructure and facilities that are essential to the civilian population, or the targeting of which may result in harm, such as the contamination of water with sewage, for instance. As such situations may require robust technical analysis, not only to understand the nature of the reverberating effects, but potentially to

---

<sup>75</sup> Robinson & Nohle, *note 40*, p.123

<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> Zeitoun, & Talhami, *note 67*, p.57.

<sup>79</sup> *Ibid*, p.69.

<sup>80</sup> Zeitoun, & Talhami, *note 67*, p.69.

identify pertinent structures as well.<sup>81</sup> Resultantly, the degree of the obligation to actively expand their information and awareness becomes of great importance.

In this sense, one must consider the level of information that is required, i.e. whether the military may simply rely on obtaining information on the location of infrastructure, facilities and supply networks, such as upstream infrastructure and downstream infrastructure (such as the supply and communication lines).<sup>82</sup> The ICRC, in their mission to disseminate IHL, provide training to armed and security forces, on the information that commanders need to acquire in order to comply with the law of targeting. They hold that this information must include: concentrations of civilians; civilian presence near the military objective, the nature of urban areas, including towns, communities and shelters; the existence and nature of important and protected objects; and the natural environment.<sup>83</sup> A number of military manuals have incorporated this list into their own manuals, to some extent. For instance, the Australian Law of Armed Conflict manual iterated the need to collect 'the best possible intelligence' on the provided list.<sup>84</sup> Further, the language has been drawn upon (in part or in its entirety) by Benin, Central African Republic, Croatia, France, Italy, Madagascar, Nigeria, Peru, Spain and Togo.<sup>85</sup>

Further, in 2010 the Israeli Minister of Foreign Affairs, referring to operations in Gaza, outlined a number of measures designed to protect civilians and civilian infrastructure during operations. Here, he referred to the need to conduct advance research into and identification (and marking) of 'existing infrastructure, including that pertaining to water, food and power supplies, sewage, health services, educational institutions, religious sites, economic sites, factories, stores, communications and media, and other sensitive sites as well as cultural institutions.'<sup>86</sup> By creating such obligations, militaries are well positioned to expect effects on such objects and build protections against their harm into operations.

Whilst this information is obtainable (through military intelligence or may be accessible through publicly available sources like the internet), it leaves the question of whether the military merely needs to

---

<sup>81</sup> *Id.*

<sup>82</sup> Robinson & Nohle, *note 40*, p.136.

<sup>83</sup> De Mulinen, F., *Handbook on the Law of War for Armed Forces, ICRC, Geneva, 1987, section 436.*

<sup>84</sup> Australia, the Manual of the Law of Armed Conflict, Australian Defence Doctrine Publication 06.4, Australian Defence Headquarters, 11 May 2006, Section 5.54.

<sup>85</sup> ICRC Customary IHL: Practice Relating to Rule 15. The Principle of Precautions in Attack, Section D, accessed at: [https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2\\_rul\\_rule15](https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2_rul_rule15) on 3 November 2019.

<sup>86</sup> Israel, Ministry of Foreign Affairs, Gaza Operation Investigations: Second Update, 19 July 2010, section 151.

understand the presence of these facilities, or whether additional technical information is required on the likely effects of their damage or destruction. Though as highlighted above, this may be easily understood in some instances, at other times the ways in which effects may manifest will be complicated. The Tallinn Manual recognises that mission planners may not have the necessary expertise to understand the nature and effects of a cyber-attack on the civilian population.<sup>87</sup> To address this issue, the Manual recommends the inclusion of technical experts into the decision-making and planning possible, where feasible, to ensure that adequate precautionary measures have been taken.<sup>88</sup> Moreover, it has been put forward separately that this technical expertise is a vital component within targeting in cyber-warfare, and that such attacks should not take place without technical guidance on their impacts on the civilian population.<sup>89</sup> Boothby has similarly argued that where an attack is expected to damage utilities relied upon by the civilian population in an urban environment, technical expertise is required to assess the duration for which the related services will be compromised, and the expected 'damage, injury, and death civilians are likely to suffer during that period.'<sup>90</sup> These requirements aim to address the gap in knowledge that may exist amongst war fighting personnel on the public health risks of an attack.<sup>91</sup>

Certainly, this can potentially require the input and expertise of technical experts, such as public health officials and engineers.<sup>92</sup> However, the source for such an obligation is difficult to identify within IHL, though it has been proffered by IHL scholars in the context of urban warfare.<sup>93</sup> In practice, militaries have adopted such practices, such as the US army in regard to potential damage to infrastructure,<sup>94</sup> and have sought to build the need to develop an understanding of infrastructural systems this into their operational planning.<sup>95</sup>

#### *viii. How do the variables of conflict affect targeting decision-making?*

---

<sup>87</sup> Schmitt, M., *Tallinn Manual on the International Law Applicable to Cyber Warfare*, (Cambridge: Cambridge University Press, 2013), p.166.

<sup>88</sup> *Id.*

<sup>89</sup> Droege, C., 'Get Off My Cloud: Cyber Warfare, IHL and the Protection of Civilians', (2012), *International Review of the Red Cross*, 94(886), 533-578, p.574

<sup>90</sup> Boothby, *note 17*, p.414.

<sup>91</sup> University Centre for International Humanitarian Law Geneva, Expert meeting on targeting military objectives, Report, 12 May 2005, p.15.

<sup>92</sup> Robinson & Nohle, *note 40*, p.136.

<sup>93</sup> Boothby, *note 17*, p.414.

<sup>94</sup> US Army Field Manual on Intelligence Support to Urban Operations, FM 2-91.4, 2008, 3-2.

<sup>95</sup> US Joint Chiefs of Staff, Joint Urban Operations, JP 3-06, 2013, pp.III-8-III-9.

A number of variables will be directly applicable when considering the impacts of an attack, particularly in the case of infrastructure and the provision of services. These issues sculpt the environment in which the attack will occur and, as such, will dictate how particular harms manifest as well as their severity. Such characteristics are therefore essential considerations for any proportionality assessment and must therefore be included within the precautionary measures mandated by Article 57 of the Protocol.

Ultimately, this will appear as the baseline resilience of an object or, indeed, the civilian population. The baseline resilience will be influenced by a number of issues, and is susceptible to the compounding impacts of conflict, requiring a holistic assessment of the operational environment. In doing so, it is essential that military actors appreciate the interconnectedness of services. Utilities and healthcare are inherently interdependent as harm to one may reduce the ability to provide necessary services across the board.<sup>96</sup> For instance, the disruption of electricity production installations, will disrupt the ability to provide potable water or run hospital services.<sup>97</sup> Moreover, such vulnerabilities not only relate to the requirement of consumable resources as highlighted within this example, but also personnel and hardware, all of which may be disrupted through armed conflict.<sup>98</sup>

In including such analysis within precautionary measures, Zeitoun and Talhami put forward that militaries can measure service resilience through 'redundancies' and the level of emergency preparedness or ability to respond.<sup>99</sup> Here, the redundancies constitute the ability of the infrastructure to contain the harm to a specific area, thereby reducing geographic scope of harm and number of individuals affected, and allowing the ability for repairs to be conducted quickly whilst maintaining service, or reconfiguring the system to allow for the service to continue. Emergency preparedness and the ability to respond relate to the ability and time needed to restore the service to its working capacity once impacted. Relevant considerations to assess this relate to the presence of trained staff, the stocks and consumables required to replace those lost by the attack, or the level of damage or degradation of the stocks.<sup>100</sup>

---

<sup>96</sup> Zeitoun & Talhami, *note 67*, p.56.

<sup>97</sup> *Id.*

<sup>98</sup> *Id.*

<sup>99</sup> Zeitoun & Talhami, *note 67*, pp.58 and 64.

<sup>100</sup> *Ibid*, p.64.

The inclusion of these considerations will not only influence the number of factors to be considered within precautionary measures but will also influence the proportionality assessment itself. For instance, a protracted conflict will universally reduce the resilience of a population, through the reduction of the community's ability to respond to the impacts on their services and infrastructure, through the brain drain of specialist staff, reduced financial capabilities, reduced access to the necessary resources, the compounded impacts on the integrity of the service system itself and so forth.<sup>101</sup> These contextual factors will underline the reverberating effects, demonstrating how a single standard cannot be applied across all instances all environments, and pointing towards a need to develop a nuanced understanding of specific environments.

#### ***d. Scope of harm***

Articles 51 and 57 of API refer to various forms of civilian harm that should be considered in attacks, namely, death, injury and damage to civilian objects. Death and damage to civilian objects are easily and intuitively understandable though injury remains as a more ambiguous term, as to the forms of injury that are captured within the provision, and the threshold of harm that is considered. This remains particularly relevant within the discussion of ESC rights, where the infringement of such rights does not necessarily involve existential threats. Ultimately, ESC rights not only concern the physical well-being of the population, but the wider fulfilment and dignity of the individual. In this respect, it is important to consider whether IHL is capable of addressing non-physical harms as a result of military operations, such as the integrity of an individual's ESC development.

IHL provisions which address non-survival ESC rights, including cultural and educational rights, were the end-product of specific deliberation and the creation of obligations uniquely tied to its specific form of protection. Though they indicate a wider appreciation of the impacts of conflict on the ESC well-being of both civilians and military personnel, this concern does not necessarily translate to the assessment of intangible and abstract harms affecting the wider development of the individual in proportionality assessments and precautionary measures. This acts to omit fundamental features of civilian well-being

---

<sup>101</sup> *Ibid*, p.63.

from being factored into the proportionality equation. For instance, as argued by Henderson and Reece, 'neither economic harm nor the loss of employment are considered collateral damage within IHL'<sup>102</sup> despite the undeniable relevance for the ESC well-being of the civilian population. From here, it is essential to then consider the scope of the rights that would come under the ambit of the law of targeting within IHL.

The substantive content of the term 'injury' for the purposes of these provisions has been largely ignored within military manuals and jurisprudence.<sup>103</sup> Military manuals appear to largely echo the term 'injury' as provided for within API, but fail to flesh-out the scope of this concept, and the literature fails to expand on the term beyond the discussion of mental harm.<sup>104</sup> The Tallinn Manual 2.0 remains as the only document that directly addresses the substance of the term 'injury' as contained within API, holding that 'it is (...) reasonable to extend the definition to serious illness and severe mental suffering that are tantamount to injury'.<sup>105</sup>

As ESC rights include the right of everyone to the enjoyment of the highest attainable standard of physical and mental health,<sup>106</sup> it is therefore necessary to analyse the scope of 'injury' in reference to this, to assess whether this includes issues such as disease and mental trauma.

#### *i. Disease*

The use the term injury can potentially be limiting, given that the ordinary meaning of the term appears to relate to wounds resulting from the attack.<sup>107</sup> However, by reviewing the negotiating history of API, it appears that the drafters intended to include disease within the ambit of the provisions.<sup>108</sup> Given the awareness of disease related impacts of modern weaponry, it is apparent that such impacts can be

---

<sup>102</sup> Henderson, I. & Reece, K., 'Proportionality under International Humanitarian Law: The Reasonable Military Commander Standard and Reverberating Effects' (2018) *Vanderbilt Journal of Transnational Law*, 51(3), 835-856, p.851.

<sup>103</sup> Gillard, E.C., '*Proportionality in the conduct of hostilities: the incidental harm side of proportionality assessments*', Chatham House Research Paper, 2018, p.30.

<sup>104</sup> *Id.*

<sup>105</sup> Schmitt, M., *Tallinn manual 2.0 on the international law applicable to cyber operations*, (Cambridge: Cambridge University Press, 2017), p.417.

<sup>106</sup> ICESCR, Article 12.

<sup>107</sup> Similarly, the French version of the text uses the term 'blessure' which translates to 'wound.'

<sup>108</sup> Gillard, E.C., *note 103*, p.31.

distinctly tied to military attacks. For instance, it would be absurd for the proportionality assessments and precautionary measures to exclude the effect of toxic substances, such as depleted uranium that plague civilian populations following their use though they are not in all instances fatal.<sup>109</sup> Moreover, the potential for the spread of disease as a result of military targeting can be high, and may arise, for example, from the targeting of water processing centres and sanitation facilities resulting in the increase in waterborne diseases.<sup>110</sup>

However, when considering whether disease is included within Articles 51 and 57, it is important to consider whether it would be included due to their ability to cause civilian death - which acts as a central and obvious component of incidental harm assessments - or whether they are intended to be included within the 'injury' component of these articles, which would allow for non-lethal illness to be considered particularly as no threshold for injury is outlined within the provisions. Non-lethal disease can severely impact civilian well-being, in a similar or even more severely than physical wounds. In this sense, the exclusion of disease from the ambit of the provision would mean that important humanitarian considerations are insufficiently captured and considered should a minor scratch be considered to the exclusion of an emergent serious disease.

Given the humanitarian purpose of API, particularly within Article 51 and 57 as highlighted above, the exclusion of disease from its ambit would signify a large gap within the Protocol. One can see an intention to protect individuals from such harm through IHL as a whole. It is possible to identify a desire to treat injury and disease as a single concept within IHL, given the obligation to respect and protect the wounded and sick alike, with no hierarchy posed between the two conditions.<sup>111</sup> Further, the extensive literature on the reverberating effects to be considered in an attack include resulting disease and ill-health within the assessment, without any discernible difference to the consideration of the resulting injuries.<sup>112</sup>

---

<sup>109</sup> ICRC, 'The Rules Governing the Conduct of Hostilities Under International Humanitarian Law: International Expert Meeting 22-23 June 2016', Report, 2016, p.33.

<sup>110</sup> *Id.*

<sup>111</sup> *Id.*

<sup>112</sup> *Id.*

## *ii. Mental Health*

The right to health, as contained within the ICESCR, contains within it the right to the highest attainable standard of mental health.<sup>113</sup> However, the extent to which IHL adequately protects this right is questionable, demonstrating a potential significant lacuna within IHL. Following from the discussion above, it is evident that the physical manifestations of harm are to be included within the scope of Articles 51 and 57, regardless of whether they arise from disease or physical injury. Nevertheless, a continuing debate exists on whether the obligations arising from these provisions extend to the impact on the mental health of the civilian population.

Notably, IHL contains a number of provisions that explicitly address the psychological well-being of civilians as well as combatants.<sup>114</sup> Article 51(2) of the Protocol itself contains a prohibition on ‘acts or threats of violence the primary purpose of which is to spread terror among the civilian population.’ The prohibition of terror appears to provide an attempt to curtail attacks that attempt to cause mental suffering.<sup>115</sup> Though ICL, in the *Galić* case, the appeals chamber held that the war crime involved ‘extensive trauma and psychological damage being caused by attacks [which] were designed to keep the inhabitants in a constant state of terror.’<sup>116</sup> However, the Tallinn Manual states that this provision can only be used by analogy to support the inclusion of mental health in the proportionality assessment and precautionary measures, and that it is therefore unclear as to whether mental health impacts should be necessarily included.<sup>117</sup> The fact that this prohibition only addresses acts where “the primary purpose of which” is to terrorize the civilian population has been invoked both in favour of and against the relevance of incidental mental harm for the principle of proportionality. Whilst arguing in favour one can say that this demonstrates a desire to protect the mental well-being of the civilian population, one may in turn respond that incidental impacts on their mental well-being is therefore excluded, and outside of the ambit of the rules of targeting.

---

<sup>113</sup> ICESCR, Article 12.

<sup>114</sup> See e.g. API, Article 75(2); APII, Article 4(2)(a).

<sup>115</sup> *Schmitt, M., note 105.*

<sup>116</sup> ICTY, *Prosecutor v. Galić*, note 72, para. 102.

<sup>117</sup> *Schmitt, M., note 105.*



Though mental harm is not explicitly contained within the rules on proportionality nor precautionary measures, one cannot necessarily infer that such an omission was intentional, and that as such mental harm was specifically excluded. Given the absence of any real clarity on the scope of 'injury', and coupled with the general lack of awareness of mental health generally, the conversation remains open. Certainly, as we gain a more robust understanding of the physical aspects of mental health issues, the distinction between such disorders and 'physical' harms appears arbitrary. Nevertheless, the inclusion of negative impacts on the mental health within proportionality assessments has been criticised as practically impossible to implement, given the difficulties in practically measuring the resultant impacts as well as the difficulties in assessing how susceptible an individual is to mental health impacts. As variables such as genetic makeup and experiential background are all active factors in whether mental health issues will arise or their resultant severity, some contend that this will be impossible to foresee in any meaningful way.<sup>118</sup> However, this contestation fails to address the fact that the proportionality equation does not necessarily seek to assess whether an attack was proportionate after the fact, but rather, seeks to be preventative in nature. As such, research can help to identify the likelihood of detrimental mental health impacts, particularly with the type of effect, such as the volume of noise, or historical observations on the ways in which civilian populations respond to methods and means of warfare, such as drone strikes.<sup>119</sup> Additionally, the myriad of variables are somewhat addressed by the fact that the decision-maker only needs to consider the information that is feasibly attainable.<sup>120</sup> Nevertheless, in certain instances, military personnel may be able to identify where an effect will have a particularly severe impact on the mental well-being of civilians, such as where children may be present (as they will likely be more susceptible to trauma, for instance). Should mental health be excluded from the protections conferred under API this will ultimately present a significant gap in IHL, in a manner that is at odds with the protections conferred within IHRL.

---

<sup>118</sup> ICRC, *note 110*, pp.35-36.

<sup>119</sup> Mauer, P., 'The Use of Armed Drones Must Comply with Laws,' ICRCs, 10 May 2013, <http://intercrossblog.icrc.org/blog/use-of-armed-drones-must-comply-with-laws-says-icrc-president>, accessed 4 November 2019.

<sup>120</sup> API, Article 57(2).

## Chapter 3 - ESC Rights in IHRL

### **a. ESC rights in IHRL**

While ESC rights are contained within a number of international legal instruments and national constitutions, they are perhaps best encapsulated within the 1966 International Covenant on Economic, Social and Cultural Rights (henceforth, the 'ICESCR' or 'the Covenant'). In safeguarding the rights contained, the Covenant's language and the subsequent discussions on the contours of State parties' obligations have identified a number of constituent features. Primary among these is the position that ESCR are to be progressively realised by the State. Article 2(1) of the ICESCR holds that States must take steps to the maximum extent of their available resources for the progressive achievement of the rights contained in the Covenant, providing an avenue by which States are granted some degree of latitude, including in difficult situations such as during armed conflict.<sup>121</sup>

In charting the contours of State obligations, one may look towards the interpretations of the substance of the ICESCR, made by the CESCR, the human rights treaty monitoring body with responsibility for overseeing the ICESCR. Whilst, non-binding, the General Comments produced by the CESCR have helped to put flesh on the bones of the Covenant, providing substantive guidance recommendations for their interpretation and scope.

The actual scope of the duty to progressively realise ESC rights was elaborated on by the CESCR within General Comment 3.<sup>122</sup> Here, they emphasised that the concept of progressive realisation should not be read in a way that holds ESC rights as merely aspirational. Rather, the obligation to progressively realise ESC rights demands the active effort to take necessary steps to the maximum of its available resources, demanding that the State moves expeditiously and effectively towards the realisation of such rights.<sup>123</sup> In this respect, these efforts 'should be deliberate, concrete and targeted as clearly as possible'

---

<sup>121</sup> Müller, A., 'The Right to Health and International Humanitarian Law: Parallel Application for Building Peaceful Societies and the Prevention of Armed Conflict,' (2014), *Wisconsin International Law Journal*, 32(3), 415-456, p.423.

<sup>122</sup> UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 3: The Nature of States Parties' Obligations (Art. 2, Para. 1, of the Covenant)*, 14 December 1990, E/1991/23, (hereafter 'CESCR General Comment 3').

<sup>123</sup> CESCR General Comment 3, para 9.

to meet the obligations set out in the Covenant.<sup>124</sup> Even within the context of armed conflicts, the CESCR has found that the obligation to progressively realise ESC rights remained in place.<sup>125</sup>

Moreover, though Article 4 of the ICESCR allows States to limit ESC rights, where these limitations are determined by law, to the extent that they are 'compatible with the nature of these rights and solely for the purpose of promoting the general welfare in a democratic society.' Despite this, the limitation of 'survival rights' such as the rights to food and health, are not necessarily considered derogable, as the limitation of these rights is not seen as necessary to protect or restore public order.<sup>126</sup> As such, States hold obligations in relation ESC rights that cannot be simply displaced by the presence of an armed conflict.

#### *i. Minimum core obligations*

Beyond the obligation to progressively realise ESC rights, the CESCR has explicitly and continuously held that the rights put forward in the ICESCR contain minimum core obligations, that must be immediately realised.<sup>127</sup> The minimum core obligations that represent the minimum levels of ESC rights differ across the nature of the right. They present a standard under which no limitation or derogation can be allowed. The minimum core obligations refer to the need to ensure at the very beginning the minimum essential levels of the rights set out in the Covenant.<sup>128</sup> Further, as laid out in General Comments 14,<sup>129</sup> 15<sup>130</sup>, 17<sup>131</sup> and 19,<sup>132</sup> the core obligations pertaining to these rights are non-derogable, and as such must be consistently ensured and upheld. While States may be tempted to argue in a manner that reflects the derogation provisions included within the legal framework surrounding civil and political rights, that the exceptional circumstances must allow for some deviation

---

<sup>124</sup> *Ibid*, para 2.

<sup>125</sup> OHCHR, *note 7*, p.5.

<sup>126</sup> Müller, *note 122*, pp.422-423.

<sup>127</sup> CESCR General Comment 3, para 1.

<sup>128</sup> OHCHR, *note 7*, pp.8-9.

<sup>129</sup> CESCR, *General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12 of the Covenant)*, 11 August 2000, E/C.12/2000/414, (hereafter 'CESCR General Comment 14') para.32 & para 42.

<sup>130</sup> CESCR, *General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant)*, 20 January 2003, E/C.12/2002/11, (hereafter 'CESCR General Comment 15'), para.42.

<sup>131</sup> CESCR, *General Comment No. 17: The Right of Everyone to Benefit from the Protection of the Moral and Material Interests Resulting from any Scientific, Literary or Artistic Production of Which He or She is the Author (Art. 15, Para. 1 (c) of the Covenant)*, 12 January 2006, E/C.12/GC/17, para.39.

<sup>132</sup> CESCR, *General Comment No. 19: The right to social security (Art. 9 of the Covenant)*, 4 February 2008, E/C.12/GC/19, para.64.

from the full protection of certain rights, the CESCR has adamantly maintained that the minimum core obligations continue to remain in force in situations of armed conflict, emergency and natural disaster.<sup>133</sup> Despite this, derogations in relation to labour rights during conflict and acute crisis are largely accepted by the international community (including the CESCR), though in this respect, labour rights appear to bear a closer relation to civil political rights than other ESC rights.<sup>134</sup>

The CESCR has addressed the respect of the ICESCR during armed conflict, and States' measures to take steps to improve the enjoyment of the rights contained within it. In doing so they have posed questions to States on the active measures they have taken to protect these rights, asking the Afghan government on their measures to ensure children's access to educational services within the worsening security situation;<sup>135</sup> whether the transitional justice process in Colombia gave sufficient weight to ESC rights and whether schools were adequately protected from occupation by armed groups;<sup>136</sup> and asking the government of the DRC to realise (at the very least) the core minimum obligations of the ICESCR, including within the conflict affected eastern provinces.<sup>137</sup> We can therefore recognise the importance that ESC rights have during conflict, and that the mere existence of an armed conflict does not erase the substantive obligations of the State. The State obligations associated with the core content of the rights to health, food, housing, access to water or to education, even within instances of armed conflict or acute crisis remain in effect.

Within their general comments the CESCR has identified the minimum core obligations including the responsibility to ensure the right of access to health facilities, goods and services without discrimination, and with a particular need to ensure this in respect to vulnerable or marginalised groups; the need to ensure access to the minimum essential food which is nutritionally adequate and safe, and to ensure freedom from hunger; the obligation to ensure access to basic housing, shelter and sanitation, as well as an adequate supply of safe and potable water and water facilities; to provide essential drugs; the equitable distribution of health facilities, goods and services; to adopt and implement a periodically

---

<sup>133</sup> OHCHR, *note 7*, p.9.

<sup>134</sup> Müller, *note 122*, p.422.

<sup>135</sup> OHCHR, *Report of the High Commissioner for Human Rights*, 19 May 2015, E/2015/59, para.38.

<sup>136</sup> CESCR, *List of issues to be taken up in connection with the consideration of the 5th periodic report of Colombia, concerning articles 1 to 15 of the International Covenant on Economic, Social and Cultural Rights*, 10 June 2009, E/C.12/COL/Q/5, para.5.

<sup>137</sup> OHCHR, *note 7*, p.5.

reviewed public health strategy and plan of action, on the basis of epidemiological evidence, that address the health concerns of the entirety of the population, and is devised through a participatory and transparent process. Such strategies/plans must include indicators and benchmarks to facilitate the measurement of progress; the monitoring of the realisation of the right to water; the obligation to take measures to prevent, treat and control diseases linked to water, in particular ensuring access to adequate sanitation; the obligation to ensure that personal security is not threatened when having to physically access to water;<sup>138</sup> Within conflicts, vulnerable and marginalised groups may emerge, or existing group's vulnerabilities exacerbated. The additional attention conferred within the minimum core obligations can therefore provide a considerable asset for securing the protection of such populations.

*ii. Prohibition of retrogressive measures*

The obligation to progressively realise ESC rights impliedly contains a prohibition on retrogressive measures limiting the attainment and protection of the rights delineated in the Covenant. This restriction has been recognised by the international law community, and presents a significant safeguard for ESC rights generally. Any exception would have to be justified against certain strict criteria. Retrogressive measures are measures that, whether directly or indirectly, cause a backsliding on the rights contained within the Covenant. The CESCR has stated that deliberate retrogressive measures 'require the most careful consideration and would need to be fully justified by reference to the totality of the rights provided for in the Covenant and in the context of the full use of the maximum available resources.'<sup>139</sup> The mere existence of an armed conflict or acute crisis will not in-and-of-itself allow for the utilisation of retrogressive measures. The CESCR commented in relation to the Democratic Republic of the Congo that whilst the prevalence of armed conflicts presented significant obstacles to the State, the decrease of resources dedicated to health services and social protection was an issue of concern. Ultimately, the CESCR found that the mismanagement of international aid and the disproportionate funding of defence to the detriment of health and social protection funding was a violation of their obligations under Article 2(1) of the ICESCR, regardless of the presence of a continuing conflict.<sup>140</sup> Here, one can locate the onus on States to provide such justifications. Within conflicts where measures may be taken that

---

<sup>138</sup> See CESCR, General Comment 14, para. 43; CESCR, General Comment 15, para 37.

<sup>139</sup> CESCR, General Comment 3, para 9.

<sup>140</sup> OHCHR, *note 7*, p.8.

actively harm the ESC rights achieved, it demonstrates a precaution against wanton measures and a need to ensure that the issue is carefully considered and justified.

*iii. Maximum available resources*

Under the ICESCR, States have an active obligation to use the maximum available resources to secure the rights laid out in the Covenant. While this does not create strict spending guidelines for ESC considerations, States must be able to demonstrate that they have made use of the resources available to meet the minimum core obligations of the Covenant at the least. In doing so, they must demonstrate that they are allocating resources to progressively realise the rights contained in a manner that 'guards against retrogressive steps or impacts and at least maintain the status quo for a broader range of human rights obligations.'<sup>141</sup> As such, States are unable to contend that the resource constraints arising from conflict and crisis situations prevent them from dedicating funding to the ESC rights arising within their jurisdictions whilst allocating inordinate amounts to their defence budget. This duty therefore reinforces States' obligations to engage in proactive measures to secure and protect ESC rights which require specific attention and direct action.

---

<sup>141</sup> OHCHR, *note 136*, para.30.

## Chapter 4 - Relationship between IHL and IHRL

### **a. How do IHRL and IHL interact?**

As demonstrated above, IHRL and IHL provide distinct obligations. The two legal frameworks sit alongside in conflict, and can complement each other, elaborating the series of responsibilities that arise in conflict situations. However, difficulties arise when the legal frameworks conflict, leading to careful consideration as to which framework will act as the primary guide.<sup>142</sup>

The International Court of Justice (ICJ) has looked towards this question on several occasions, namely, the *Nuclear Weapons*<sup>143</sup> and the *Wall*<sup>144</sup> Advisory Opinions as well as *DRC v Uganda*.<sup>145</sup> The issue has received attention within the European Court of Human Rights,<sup>146</sup> the Inter-American Court of Human Rights,<sup>147</sup> and the Human Rights Committee.<sup>148</sup> The first substantive discussion of the subject took place within *Nuclear Weapons* advisory opinion. Here, the ICJ held that the International Covenant on Civil and Political Rights continues to apply in conflict (whilst permitting derogations in line with Article 4). However, in situations where human rights obligations differ with those provided for by IHL, they held that the *lex specialis* (the law governing the specific subject matter) will prevail.<sup>149</sup> In these situations, the legal framework that is designed to cover the particular situation will act as the primary law.

In the *Wall* Advisory Opinion, the Court provided more substantive guidance on the issue. It held that three possible situations cover the relationship between IHL and IHRL. Firstly, there may be situations in which 'rights may be exclusively matters of [IHL].' Secondly, there may be occasions in which IHRL

---

<sup>142</sup> Murray, D., *et al.*, *Practitioners' Guide to Human Rights Law in Armed Conflict*, (Oxford: Oxford University Press, 2016), p.79.

<sup>143</sup> *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports 1996, p. 226, ICJ, 8 July 1996, (hereafter '*Nuclear Weapons*') para.25.

<sup>144</sup> *Advisory Opinion Concerning Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, ICJ, 9 July 2004, (hereafter '*the Wall*'), para 106.

<sup>145</sup> *Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda)*, ICJ Report 2005, ICJ, p.116 19 December 2005, (hereafter, '*DRC v Uganda*') para.216.

<sup>146</sup> *Hassan v. the United Kingdom*, Judgment, App. no. 29750/09 (ECtHR, 16 September 2014), para.96-107.

<sup>147</sup> E.g. *Mapiripan Massacre v. Colombia*, Judgment, IACtHR, 15 September 2005, para. 115; *Serrano Cruz v. El Salvador*, Preliminary Objections, IACtHR, 23 November 2004, paras. 112–13.

<sup>148</sup> UN Human Rights Committee, *General comment no. 31 [80], The nature of the general legal obligation imposed on States Parties to the Covenant*, 26 May 2004, CCPR/C/21/Rev.1/Add.13, para.11.

<sup>149</sup> *Nuclear Weapons*, note 144.

is the sole governing regime. Thirdly, situations may arise in which rights may be matters of both IHL and IHRL.<sup>150</sup> However, the Court failed to provide a methodology for determining how a situation can be siloed within one of these categories.<sup>151</sup> Despite this failure to provide clear guidance, the court recognised IHL as *lex specialis*, while acknowledging that ‘the protection offered by human rights conventions does not cease in case of armed conflict (though, again, the court accepted the possibility of derogations under Article 4 of the International Covenant on Civil and Political Rights 1966).<sup>152</sup> Additionally, the Court paid explicit attention to ESC rights,<sup>153</sup> stating that the ICESCR can apply to ‘territories over which a State party has sovereignty and to those over which that State exercises territorial jurisdiction,<sup>154</sup> which is directly relevant to situations of occupation that are provided for within IHL. In this case, the Court rejected Israel’s argument that the ICESCR did not apply in relation to the Occupied Palestinian Territories due to ‘the well-established distinction between human rights and humanitarian law under international law’<sup>155</sup> and held that a State’s obligations are not suspended merely as a result of the existence of an armed conflict.<sup>156</sup> Rather, the obligations provided for within the ICESCR are read in light of IHL and are extended to populations under their jurisdiction as a result of occupation.<sup>157</sup>

The ICJ’s *DRC v Uganda* judgment returned to the question of the relationship between IHL and IHRL, and ultimately adopted a different approach to the previous ICJ cases. Though the case referred to *the Wall* opinion, no reference was made to the concept of *lex specialis*. Rather, the Court found ‘that both branches of international law, would have to be taken into consideration.’<sup>158</sup> This acted to provide an approach that refused to ‘displace’ one body of law in favour of the other, regardless of the *lex specialis* principle. While one framework may ultimately used as an ‘initial reference point’<sup>159</sup> both IHL and IHRL are able to guide the nature and scope of legal obligations. However, like the Court in *the Wall* opinion, the ruling did not state their methodology for identifying when IHL or IHRL operates as the primary framework covering the situation, nor did they outline whether the violation at hand was a violation of

---

<sup>150</sup> *The Wall*, note 145,

<sup>151</sup> *Murray et al.*, note 143, p.83.

<sup>152</sup> *The Wall*, note 145.

<sup>153</sup> *Ibid*, para.112.

<sup>154</sup> *Id.*

<sup>155</sup> *Id.*

<sup>156</sup> *The Wall*, note 143, para.136.

<sup>157</sup> *Ibid*. para 112.

<sup>158</sup> *DRC v Uganda*, note 146, para.216.

<sup>159</sup> *Murray et al.*, note 143, p.80.



human rights due to the fact that the killings in the case were also in violation of IHL, or whether they found that the violation occurred independently of the violation of IHL.<sup>160</sup> Nevertheless, the *DRC v Uganda* case represented a clear shift towards the principle of concurrent application, emphasising the position and role of human rights law within armed conflict situations.

The reasoning within the Inter-American Commission on Human Rights and Inter-American Court have taken a similar trajectory. After having adopted a stringent *lex specialis* model within *Coard et al v United States* that placed a premium on IHL within conflict,<sup>161</sup> they began to recognise the co-application of IHL and IHRL. Here, they held that ‘the specificity of the provisions of [IHL] do not prevent the convergence and application’ of IHRL as contained within the American Convention and other sources of international law.<sup>162</sup> The Court has since outlined their methodology for determining the nature of the interaction between the two frameworks. In the *Case of Afro-Descendent Communities Displaced from the Cacaria River Basin (Operation Genesis) v Colombia*, the Court held that given that the facts took place within a non-international armed conflict, the treaty-based obligations should be read in a manner that complements IHL, recognising the specificity of IHL in governing situations of NIAC.<sup>163</sup> Moreover, it is also the case that the two frameworks will be used to specify the scope of obligations within conflict.<sup>164</sup>

Ultimately, on the basis of the case law highlighted above, it can be gleaned that the first step in identifying the applicable legal framework will be to look towards the rules either specific to the situation (as per the language of the Inter-American Commission and Court and the Human Rights Committee) or the rules designed for the given situation (as per the language of the ICJ and the European Court of Human Rights).<sup>165</sup> The laws of targeting will rely on IHL as the primary framework in active hostilities as a result. Nevertheless, IHRL, though interpreted through IHL in targeting, will nevertheless remain active and applicable in contributing to and informing the appropriate legal framework.<sup>166</sup>

---

<sup>160</sup> *Id.*

<sup>161</sup> *Coard et al v United States*, Decision, IACHR, Case 10.951, 29 September 1999, para.42.

<sup>162</sup> *Serrano Cruz v El Salvador*, Preliminary Objections, IACtHR, 23 November 2004, para.112.

<sup>163</sup> *Case of Afro-Descendent Communities Displaced from the Cacaria River Basin (Operation Genesis) v Colombia*, Judgment, IACtHR, 20 Nov 2013, para.221.

<sup>164</sup> *Mapiripan Massacre v. Colombia*, note 148.

<sup>165</sup> *Murray et al.*, note 143, p.86.

<sup>166</sup> *Id.*

### ***b. Does extraterritoriality impact the usefulness of IHRL in conflict settings?***

Given the State based focus of IHRL, jurisdiction is of primary importance in determining when IHRL is applicable.<sup>167</sup> Whilst some scholars have attempted to find human rights obligations on the part of non-state armed groups,<sup>168</sup> this is outside the scope of this work. As such, this work is concerned with the obligations of State actors, confined to conflicts within their territorial jurisdiction. In this respect, the IHRL obligations that are identified will be relevant for international and non-international in which a State is fighting within its own borders or in areas within their effective control, or in situations of occupation in which the State holds IHRL obligations.<sup>169</sup> Wider discussion on extraterritorial obligations, whilst pertinent and are of particular interest in respect to ESC rights, these issues will not be considered within this work.

### ***c. The Law of Targeting and IHRL***

IHRL also creates its own obligations during targeting processes. Even within situations of active hostilities, human rights obligations can apply rigorous standards. Whilst the case law on such issues is drawn from civil and political rights, IHRL will ultimately act to reinforce the IHL principles on targeting.<sup>170</sup> Here, given the vagueness of the requirements of the precautionary measures within IHL, we can turn to the better delineated requirements within IHRL to help elucidate the content of military obligations. Whilst the group of experts who adopted the 'Manual on International Law Applicable to Air and Missile Warfare' contended that IHRL has only a minimal influence over targeting decisions as a result of the *lex specialis* principle, in which IHL is dominant, this section highlights that this interpretation may fail to adequately address the development of the law towards the concurrent application approach. In turn, it is put forward that IHRL must be active during the targeting process in armed conflicts and

---

<sup>167</sup> Vandenbogaerde, A, 'Jurisdiction Revisited - Attributing Extraterritorial State Obligations under the International Covenant on Economic, Social and Cultural Rights,' (2015) *Human Rights & International Legal Discourse*, 9(1), 6-33, p.7.

<sup>168</sup> See: Murray, D., *The Human Rights Obligations of Non-State Armed Groups*, (Oxford : Hart Publishing, 2016).

<sup>169</sup> Lubell, N., "Human rights obligations in military occupation" (2012) *International Review of the Red Cross*, 94(885), 317-338, pp.319-320.

<sup>170</sup> Murray *et al*, note 143, p.128-129.

can be deployed in a manner that complements IHL, while recognising that IHL will act as the guiding regime.<sup>171</sup>

Importantly for the purposes of charting military obligations to proactively gather information, militaries, where necessary and feasible, should conduct supplementary investigations to develop a full understanding of the circumstances.<sup>172</sup> This can entail the obligation to obtain, among other information, information on the presence of civilians within the area. This ultimately, echoes the position put forward by Droege that militaries may have an obligation to obtain additional information (and in the absence of such information may need to refrain from an attack)<sup>173</sup> and demonstrates that militaries cannot simply shop short of collecting a wider set of information, where they are in a position to actively expand their knowledge. Further, in operationalising this knowledge, information should be actively communicated between military personnel, with the *Isayeva* case mandating the communication of information on the presence of civilians within the area to avoid the accidental targeting of such civilians.<sup>174</sup> Beyond this, additional technical support measures can be required, such as arranging the presence of forward air controllers to assist in identifying civilians where they may be present within the area.<sup>175</sup>

In selecting the means and methods of warfare used in an attack, IHRL creates a similar list of obligations. For instance, in operational planning, IHL is bolstered by the obligation in IHRL for militaries. Militaries should seek to 'avoid or minimise, to the greatest extent possible, the risk of loss of life' to those directly targeted as well as civilians,<sup>176</sup> though the obligation to avoid the death of combatants is not present within IHL. Further, the means used within an attack, must take into account the likelihood of incidental damage.<sup>177</sup> In the planning of the attack, there also exists an obligation to consider the potential actions of the hostile actors, and in this sense look towards the effects of an attack that exists beyond the initial effect of their immediate targeting decision. Here, militaries, in planning an ambush, need to take the potential response of the hostile actors into account, such as the threat of civilians

---

<sup>171</sup> HPCR, *Manual on International Law Applicable to Air and Missile Warfare, Program on Humanitarian Policy and Conflict Research at Harvard University*, February 2010, p.6.

<sup>172</sup> *Khatsiyeva and Ors v Russia*, App. no. 5108/02 (ECtHR, 17 January 2008), para. 136-7.

<sup>173</sup> Droege, note 89.

<sup>174</sup> *Isayeva v Russia*, Judgment, App. no. 57950/00 (ECtHR, 24 February 2005), para 186-7.

<sup>175</sup> *Isayeva, Yusupova and Bazayeva v Russia*, App. no. 57950/00 (ECtHR, 24 February 2005), para 188-9.

<sup>176</sup> *Kerimova & Ors v Russia*, Judgment, App. nos. 17170/04, 20792/04, 22448/04, 23360/04, 5681/05, and 5684/05 (ECtHR, 3 May 2011), para.248.

<sup>177</sup> *Isayeva v Russia*, note 175, para.189.

being caught in the responsive fire of the targeted party.<sup>178</sup> However, the obligation to engage in proactive measures, or detailed planning of the attack is dependent on the time available to engage in such activities.<sup>179</sup> Where the opportunity to conduct such efforts is present but not implemented the failure to do so will likely amount to a violation of human rights law.<sup>180</sup> Importantly, IHRL also requires active communication and the monitoring of the operational environment in active hostilities, thereby increasing the level of civilian protection, by developing the ability to respond to the dynamic nature of the battlefield, or to allow for unanticipated risks to be communicated to the targeting decision-makers.<sup>181</sup>

Drawing from these obligations articulated in IHRL case law helps to clarify the nature of requirements placed on militaries during the targeting process and the planning of operations. As such, using the principle of the concurrent application of IHRL and IHL, we can see that IHRL actively reinforces the provisions within IHL and provides a legal basis for the obligation to proactively engage in activities, such as the gathering of additional information and use of technical measures, to better respect the humanitarian principles of IHL and IHRL. Whilst the case law cited above is grounded in civil and political rights, such measures could be equally required to respect ESC rights. Even without the moniker of ESC rights, the right to life within civil and political rights can echo ESC rights that entail existential components such as the right to health and the right to water.<sup>182</sup> For this reason, it is argued that to properly respect these rights, the measures required on the part of military actors should extend to capturing the reverberating effects related to issues such as the spread of disease, degradation of water systems and limitations on the ability of the population to access healthcare services.

On a practical level, the application of IHRL alongside IHL within targeting practices will allow for more intensive third party inspection of the legality of targetings, as affected persons are able to bring cases before international bodies. Given that States will need to justify their decision making through the production of evidence,<sup>183</sup> increased accountability may improve decision-making more generally by

---

<sup>178</sup> *Ergi v. Turkey*, Judgment, App. no. 66/1997/850/1057 (ECtHR, 28 July 1998) para.79-80.

<sup>179</sup> *Ahmet Ozkan and Ors v Turkey*, App. no. 21689/93 (ECtHR, 6 April 2004), para.296-305.

<sup>180</sup> *Esmukhambetov & Ors v Russia*, Judgment, App. no. 23445/03 (ECtHR, 29 March 2011), para 138; *Isayeva v Russia*, note 175, para.184-200.

<sup>181</sup> *Isayeva, Yusupova and Bazayeva v Russia*, note 176, para.194.

<sup>182</sup> Yamin, A.E., *Power, Suffering, and the Struggle for Dignity*, (Philadelphia: University of Pennsylvania Press, 2016), p.144.

<sup>183</sup> *Khashiyev and Akayeva v Russia*, Judgment, App nos. 57942/00 and 57945/00 (24 February 2005), para.133.

making them more wary of adverse findings, or through the increased ability of claimants before bodies, given the dearth of judicial bodies dealing primarily in State compliance with IHL.

#### ***d. Reverberating effects in IHRL***

Despite IHL operating as the primary framework for targeting in active hostilities, international human rights law can still influence the proportionality assessment when measuring whether incidental death or destruction resulting from the attack outweigh the military advantage to be gained.<sup>184</sup> In reviewing such cases, courts have placed weight on a variety of human rights issues, relating to the concern that affected property is essential for the livelihood of the civilian population,<sup>185</sup> whether displacement will occur as a result of the destruction of the property<sup>186</sup> whether an attack may interfere with the right to respect for the home,<sup>187</sup> the cultural significance of the targeted property,<sup>188</sup> and respect for the environment.<sup>189</sup> Nevertheless, whilst such issues will need to be considered, they will still be balanced with the anticipated military advantage, thereby allowing severe infringements on such rights within active hostilities.<sup>190</sup>

---

<sup>184</sup> Murray *et al.*, note 143, p.134.

<sup>185</sup> *Case of the Afro-Descendant Communities Displaced from the Cacaria River Basin (Operation Genesis) v Colombia*, Judgment IACtHR, 20 Nov 2013, para 352.

<sup>186</sup> *Bilgin v Turkey*, Judgment, App. no. 23819/94 (ECtHR, 16 November 2000) para. 108; *Selcuk and Asker v Turkey*, Judgment, App. nos. 12/1997/796/998–999 (ECtHR, 24 April 1998), para 87; *Intuango Massacres v Colombia*, Judgment, IACtHR 1 July 2006, para 182.

<sup>187</sup> *Orhan v Turkey*, Judgment, ECtHR, 18 June 2012, para 179.

<sup>188</sup> *Sawhoyamaya Indigenous Community v Paraguay*, Judgment, IACtHR, 29 March 2006, para 121.

<sup>189</sup> *Nuclear Weapons*, note 144, para 30.

<sup>190</sup> Murray, *et al.* note 143, p.135.

## Chapter 5 - The Operationalisation of ESC rights in targeting practices

### ***a. Existing suggested models***

Though not hinged on ESC rights, Bothe has put forward a model that intended to confer wide protections to populations during humanitarian interventions, in a manner that would confer particular protections to the ESC rights of the populations, whilst remaining grounded in *jus ad bellum* (the law covering States' right to use force). Bothe contended that the humanitarian objectives of humanitarian intervention would influence the application of IHL.<sup>191</sup> Under this approach, Bothe argued that the humanitarian aims would therefore create limits on the objects that States would be permitted to target. Given the widespread destruction and significant impacts on the ESC rights of the civilian population in Kosovo resulting from the NATO campaign,<sup>192</sup> this approach could potentially provide better for the civilian population. However, Bothe's position is legally inarguable, as such an argument would conflate the distinct rules IHL and *jus ad bellum*, which do not interact in the same manner as IHL and IHRL but, rather, are entirely separated.<sup>193</sup>

Beyond this, Müller states that given the ICJ's insistence that IHRL continues to apply in armed conflicts,<sup>194</sup> the minimum core obligations contained within ESC rights should be respected within military targeting decisions, as any other interpretation would entirely erase States' obligations under the ICESCR.<sup>195</sup> Here, Müller argues that the targeting of certain 'dual-use' objects such as transportation infrastructure or electricity networks may prohibit States from meeting their core obligations outlined within General Comment 14, such as the disruption of immunisation campaigns or the delivery of essential drugs or equipment.<sup>196</sup> Moreover, it is asserted that States have an obligation to provide access to the minimum right to health services in a more sustainable manner than through

---

<sup>191</sup> Bothe, M., 'The Protection of the Civilian Population and NATO Bombing on Yugoslavia: Comments on a Report to the Prosecutor of the ICTY' (2001) *European Journal of International Law*, 12(3) (2001), p.353.

<sup>192</sup> Cronin, *note 4*.

<sup>193</sup> Sassòli and Cameron, 'The Protection of Civilian Objects—Current State of the Law and Issues de lege feranda' in Ronzitti and Venturini (eds.), *The Law of Air Warfare— Contemporary Issues* (Utrecht: Eleven International Publishing, 2006), pp.35–74, p.67.

<sup>194</sup> *The Wall*, *note 145*.

<sup>195</sup> Müller, A., *The Relationship Between Economic, Social and Cultural Rights and International Humanitarian Law: an analysis of health-related issues in non-international armed conflicts*, (Leiden: Martinus Nijhoff Publishers, 2013), p.178.

<sup>196</sup> *Ibid*, p.179

the provision of humanitarian assistance after the cessation of active hostilities. Resultantly, the foreseeable effects of the long-term deterioration of health services over the course of hostilities should be included within proportionality analysis, even where IHL acts as the guiding legal framework, due to the co-application of IHL and IHRL.<sup>197</sup>

Central to this argument is the position that where the minimum core obligations have been met, limitations and retrogressive measures that affect this minimum level are only permitted for 'the purpose of promoting general welfare in a democratic society.'<sup>198</sup> However, limitations for reasons of national security and public order are not justifications in and of themselves allowed.<sup>199</sup> Further, derogations that take the State below the minimum core obligation levels are not allowed through Article 4 of the ICESCR.<sup>200</sup>

Within the concurrent application approach to the relationship between IHL and IHRL, any tensions between the two legal frameworks should be read in a manner that allows for the complementary application of the two frameworks, though the legal framework that specifically covers, or is designed for, the issue will act as the primary reference point. Following this reasoning, Müller correctly identifies such a tension within the law of targeting under IHL, given the absence of IHRL principles such as the minimum core obligations as contained within the ICESCR. It is therefore necessary to attempt to read the two frameworks in a mutually complementary fashion, with the provisions of IHRL being used to reinforce and flesh out the provisions within IHL. Müller contends, using the right to health as the focal point, that the minimum core obligations demands the provision of certain key services (here the creation and maintenance of 'a basic health care system that ensures individuals' physical and economic access to essential primary health care independently and in a sustainable manner.<sup>201</sup> This obligation, she argues, remains active within the law of targeting, and will act to inform the interpretation of IHL within this realm, both in terms of the definition of military objectives and the principle of proportionality, given the lack of clarity concerning these issues within IHL scholarship.<sup>202</sup>

---

<sup>197</sup> *Id.*

<sup>198</sup> ICESCR, Article 4.

<sup>199</sup> Müller, *note 196*, p.153.

<sup>200</sup> *Id.*

<sup>201</sup> *Ibid*, pp.155-156.

<sup>202</sup> *Ibid*, p.156.

Müller puts forward a position that seeks to integrate minimum core ESC rights as provided for by the ICESCR within the targeting process in order to minimise the long-term impacts of conflict on public health.<sup>203</sup> However, such reasoning may be extrapolated and deployed across ESC rights as minimum core obligations have been identified and crafted by the CESCR across the spectrum of ESC rights. By utilising such an approach, Müller holds that IHL can still act as the dominant framework within active hostilities, whilst still embedding IHRL in a manner that is compliant with the concurrent application framework, providing substance to grey areas within the provisions themselves.<sup>204</sup>

This argument nevertheless remains difficult to reconcile with the active hostilities/security operations dichotomy, under which IHL will act as the guiding framework in active hostilities, whilst IHRL be the primary reference point in security operations.<sup>205</sup> While it is accepted that IHRL continues to apply in conflict settings, within active hostilities, specific provisions within IHL will act as the primary guiding framework where it is sufficiently clear. In doing so, we must recognise that rights that will apply otherwise (such as a combatants right to life) can be displaced by the IHL rules on targeting. When viewed within this light, Müller's position that the minimum core obligations and the prohibition on retrogressive measures will create standards that must be respected, even where the armed group has the ability to target an object under IHL, is perhaps too optimistic. This thesis puts forward the position that within the attack itself, the fundamental formula of the proportionality assessment will remain unchanged.<sup>206</sup> Through the ability to engage in actions that would otherwise violate the rights of the civilian where it is commensurate with the military advantage, it is therefore evident that IHL specifically covers this issue in a manner that cannot incorporate the minimum core obligations of IHRL, though they will continue to apply outside of this specific instance of active hostilities. However, IHRL can influence the procedure of the attack, and in doing so, create obligations to develop and incorporate the impacts on the ESC rights of the population within the targeting procedure, thereby influencing the ultimate calculation of whether to conduct or minimise the harms resulting from an attack. Within this, the specific obligation to maintain the minimum core obligations will mandate the consideration of these

---

<sup>203</sup> *Id.*

<sup>204</sup> *Ibid*, p.155.

<sup>205</sup> Murray, *note 143*, p.80.

<sup>206</sup> *Ibid*, p.135.



base-line rights at the very least, but they will remain balanced against the anticipated military advantage.

***b. Proactive obligations to expand awareness***

As discussed above, given the absence of guidance on the level of information that is to be relied upon in identifying what an attacker 'may expect' in terms of the death and injury of civilians and damage to civilian objects, as well as the obligation to proactively seek information on these issues, a number of conflicting interpretations have emerged. This appears to indicate a lack of specificity within IHL on this area, and as such, it may be beneficial to consider the co-application of IHRL. As such, IHRL can help to provide a practical basis for determining the issues that a military is to consider as well as their proactive obligations in obtaining information on the effects of an attack that impact the rights of the civilian population. Moving forward, this thesis will consider the obligations that stem from ESC rights to determine how they may influence the application of the law in this area, relying on the ICESCR as well as the guidance provided by the CESCR.

Military attacks that impede and degrade the ESC rights of the population must involve the 'most careful consideration' of the rights affected.<sup>207</sup> Within the context of the full use of the maximum available resources, one may read an obligation to actively gain information on these impacts, creating a positive obligation to understand and appreciate the extent and nature of the reverberating effects of an attack, and a duty to expend resources in attempting to garner such information. As a result of this obligation within IHRL to expend the maximum available resources in upholding ESC rights, States (and indeed militaries) are limited in their ability to argue against the need to develop methods to identify the effects on ESC rights resulting from conflict, particularly where they cause the degradation of systems to a level below the minimum core obligations..<sup>208</sup>

As referred to above, the ability to take the full range of ESC rights into account during targeting is limited by the API. In this respect, beyond specific provisions that limit the targeting of cultural property

---

<sup>207</sup> See CESCR General Comment 14, para.32; General Comment 15, para.19.

<sup>208</sup> Müller, *note 122*, p.424.

or the use of means and methods of warfare that compromise the right to water, for instance, the proportionality test and precautionary measures are restricted to issues that are potentially existential in nature or include actual physical (and, as argued here, psychiatric) harm. Nevertheless, expanding the protection of this limited number of ESC rights can provide significant protection to the civilian population, whilst relying on the narrow number of specific provisions for the aspects of civilian well-being that are not necessarily survival or physical well-being related in nature, such as cultural fulfilment. With this in mind, the primary focus will remain on ESC rights that pertain to the civilian population's physical well-being, such as the rights to health and water.

The CESCR's General Comment 14 on the Right to the Highest Attainable Standard of Health emphasises the need for States to engage in individual and joint efforts to 'make available relevant technologies, using and improving epidemiological surveillance and data collection on a disaggregated basis.'<sup>209</sup> Similarly, General Comment 15 on the right to water, holds that 'States parties should monitor and combat situations where aquatic eco-systems serve as a habitat for vectors of diseases wherever they pose a risk to human living environments.'<sup>210</sup> These obligations require the establishment of active diligence measures to better appreciate and monitor where an attack will affect the right to health or water.<sup>211</sup> Of note, however, is that - at least in relation to the right to health - this does not just occur at the level of what they may expect at present, but to actively expand their awareness and understanding of the knock-on impacts, utilising and advancing technological measures to develop these abilities.

The CESCR has held that States parties should avoid 'limiting access to, or destroying, water services and infrastructure as a punitive measure, for example, during armed conflicts in violation of international humanitarian law.'<sup>212</sup> As such, we can see that the obligations derived from the ICESCR do not merely rest at the level of national policy, but also exist at the military level. As such, militaries retain the obligation to respect the rights contained within. However, the phrasing of this particular recommendation makes it appear that ESC rights entail negative obligations on the part of militaries. These negative obligations require certain positive actions in order to be properly achieved, particularly

---

<sup>209</sup> CESCR, General Comment 14, para 16.

<sup>210</sup> *Ibid*, para 8.

<sup>211</sup> CESCR, General Comment 15, para 37(g).

<sup>212</sup> *Ibid*, para 21.

given that the avoidance of limiting access to or destroying water services and infrastructure relies not only on intuitive knowledge, but significant expert knowledge and an awareness of systems developed through the gathering of specific information.<sup>213</sup>

This approach can actively complement the concurrent application of IHL and IHRL in a manner that honours the current trajectory of international case-law. This approach would require the establishment of procedures outside of an active hostilities setting. For this reason, it retains a practical value, understanding that such diligence procedures are not necessarily possible to conduct in the heat of combat, but should, rather, be diffused through military and State processes in order to inform military targeting measures in combat when they occur. In instilling this ability to utilise epidemiological surveillance and more general monitoring of impacts on the rights to health and water, States would ultimately need to harness expert knowledge and incorporate it within their processes. Moreover, beyond enhancing their technical awareness of the knock-on effects of an attack, the need to collect epidemiological data on a disaggregated basis and to understand where waterborne diseases ‘pose a risk to human living environments,’ including the specific obligation to do this within combat situations, would necessarily require a robust understanding of the human terrain within an operational environment.<sup>214</sup> In obtaining this information, an intersectional approach to individual vulnerability to such disease would need to be collected. As such, one may look towards the specific vulnerabilities of community groups, including gender, class, irregular migrant status amongst others, to identify where they will be particularly vulnerable. For instance, in patriarchal communities (which is to say, most communities) women may be culturally expected to perform the majority of informal medical care work or water collection and cleaning.<sup>215</sup> In this respect, their level of interaction with persons with disease or contaminated water supplies may be higher, therefore making them particularly susceptible to harm. This should ultimately inform any military’s assessment of the possible effects of an attack, allowing them to understand the parameters of harm, and ascertaining the exact manner in which they may manifest (particularly where they compound additional existing vulnerabilities).

---

<sup>213</sup> Robinson & Nohle, *note 40*, p.136.

<sup>214</sup> CESCR, General Comment 15, para.8.

<sup>215</sup> Wille, *note 8*, p.16.

To reiterate, these obligations will not result in a fundamental rebalancing of the proportionality assessment, as any expected civilian death or injury, and any civilian property destruction will still be measured against the anticipated concrete and direct military advantage. Regardless, by expanding military's obligations to obtain information on the impacts of an attack, and to develop a sufficiently intersectional approach to allow for the full appreciation of its effects, one can better ensure that a meaningful balancing of the harms and military advantage has been conducted.

Moreover, the obligation to actively expand their understanding of the effects of an attack remains compatible with the belief of States that targeting decisions should be based on information at hand during the time of attack<sup>216</sup> or the requirement for information that is 'reasonably available' at the time of the attack.<sup>217</sup> This is due to the fact that the obligation to expand their awareness of the reverberating effects of an attack will require the establishment of processes to gather or process relevant information within their targeting systems. In doing so, the information at hand during an attack and the information that is reasonably available will be expanded. This can be through the training of military personnel on the knock-on effects of an attack (including understanding the interplay of central features of infrastructure), the inclusion of expert personnel such as engineers or public health experts within targeting decision making or the development of assessment measures for the operational environment that are able to adequately capture the nuances of communities as well as the assessment of where harms may arise and compound. Moreover, the selection of military targets is often conducted prior to the actual attack. Military actors frequently draft lists of the likely targets in a military campaign, assessing the legality of the attack and vetting them for future. When engaging in such efforts, it appears eminently feasible to include ESC rights within this vetting process, given the greater amount of time available, a more detailed level of information can be acquired and expert opinion can be factored into the decision-making process.<sup>218</sup> This will be particularly relevant in situations where complex infrastructural networks are involved, or where the manifestation of harm across vulnerable communities may require a deep-dive into the ways in which a knock-on effect will materialise.

---

<sup>216</sup> Robinson & Nohle, *note 40*, p.135.

<sup>217</sup> *Id.*

<sup>218</sup> Zeitoun and Talhami, *note 67*, p.68

Rogers has attempted to define the 'reasonably available,' holding that it is contingent on the information that is available at the time, and whether this information indicates that additional information is required from other sources.<sup>219</sup> Additionally, as outlined above, a number of military manuals demand the active collection of information to best understand the incidental damage that arises from an attack, echoing the requirements stipulated by the ICRC.<sup>220</sup> Such manuals outline a requirement to assess the concentration of civilians, the nature of the urban environment (including settlements and shelters), the natural environment, and protected objects such as 'medical units, cultural objects, [and] installations containing dangerous forces.'<sup>221</sup> Nevertheless, these manuals do not make explicit reference to a need to obtain information on the interconnectedness of infrastructure and services, or the spread of disease within the area, for example.<sup>222</sup> In this sense, it is important to consider what level of information is required, i.e. whether the military may simply rely on obtaining information on the location of infrastructure, facilities and supply networks, such as upstream infrastructure (such as treatment plants and energy production facilities) and downstream infrastructure (such as the supply and communication lines).<sup>223</sup> Whilst this information is obtainable (through military intelligence or publicly available sources like the internet), it leaves the question of whether the military merely needs to understand the presence of these facilities, or whether additional technical information is required on the likely effects of their damage or destruction. The Tallinn Manual recognises that mission planners may not have the necessary expertise to understand the nature and effects of a cyber-attack on the civilian population.<sup>224</sup> To address this issue, the Manual recommends the inclusion of technical experts into the decision-making and planning possible, where feasible, to ensure that adequate precautionary measures have been taken.<sup>225</sup> The duty to monitor impacts on ESC rights, as identified by the CESCR, will require attention to be paid to these issues, as they underline individuals' ability to avail of such rights. Where they are impacted by armed conflict scenarios it is therefore necessary that these measures should be collected in these scenarios. Where such information has been collected under IHRL obligations, they will then be readily available for military personnel, and States would have a duty to forward this

---

<sup>219</sup> Rogers, A.P.V., *Law on the battlefield*, (3rd edn.) (Manchester: Manchester University Press, 2012), p.151.

<sup>220</sup> ICRC, *note 85*.

<sup>221</sup> *Id.*

<sup>222</sup> Robinson & Nohle, *note 40*, p.136.

<sup>223</sup> *Id.*

<sup>224</sup> Schmitt, *note 105*.

<sup>225</sup> *Id.*

information to militaries in order to instil some level of protection of ESC rights in areas under their effective control.

The operationalisation of ESC rights in military targeting practices is of interest for capturing the reverberating effects of an attack. Of particular interest here is the question of what one ‘may expect’ as a result of an attack. Here, one can ascertain that States have an obligation to actively expand their understanding of the reverberating effects, ‘using and improving’ their epidemiological surveillance and data collection. Further, the IHRL framework regarding ESCR creates a number of additional obligations for States. This involves the duty to assess the state of enjoyment of ESC rights, including ensuring adequate mechanisms to collect and assess relevant and suitably disaggregated data.<sup>226</sup>

### ***c. Recommendations***

There are a number of ways in which militaries can seek to better protect ESC rights in conflict in a manner that respects their responsibilities under both IHL and IHRL whilst maintaining a practical lens. The following list provides a demonstration of some of the ways in which this can be achieved, though it does not seek to provide an exhaustive list of measures.

#### *i. Scope of ‘injury’*

Ambiguity within the definition of injury within Articles 51 and 57 of the Protocol potentially leave room for the exclusion of important aspects of civilian well-being, primarily non-fatal disease and mental harm. Under the concurrent application of IHL and IHRL approach, IHRL can be used to inform the entailing rules of the laws of targeting especially where such ambiguity is prevalent.<sup>227</sup> In this respect, the explicit reference to the right to health (including mental health) within the ICESCR points to a need to include such issues within targeting practices<sup>228</sup> helping to elucidate the scope of the provisions in a manner that complements and is influenced by IHRL. As such, militaries should seek to include assessments on these impacts within their proportionality assessments and precautionary measures. Though it is

---

<sup>226</sup> CESCR, General Comment 14, para.16; General Comment 15, para.25.

<sup>227</sup> *Mapiripan Massacre v. Colombia*, note 148.

<sup>228</sup> ICESCR, Article 12.

noted that such information may be difficult to ascertain at times, a problem which has been suggested as eminently challenging in respect of mental health, it is certainly possible to rely on historical observations to assist in such determinations. Here, one can observe, for instance, the typical psychological impacts of means and methods of warfare such as drone strikes<sup>229</sup> on the civilian population and filter this into their decision on the choice of means and methods used to achieve their military goals.

## *ii. Target and 'No-strike' lists*

At present, militaries frequently develop no-strike lists, highlighting a list of objects that should not be targeted within military campaigns. These are prepared in advance of targeting, therefore allowing considerable analysis (including legal analysis) of potential attacks.<sup>230</sup> In this respect, instructing Judge Advocates General to pay due attention to the reverberating effects of an attack within the State's interpretation of IHL and IHRL can help to protect critical infrastructure and other objects that are essential for the fulfilment of the ESC rights of the population. During the 2003 invasion of Iraq, the targeting list of the US military was frequently amended, with files sent back as JAGs felt that more information was required.<sup>231</sup> This demonstrates that establishing such a vetting process can help to enrich humanitarian concerns within the targeting process. These lists should attempt to anticipate potential and likely violations of ESC rights, and the development of such lists should include robust analysis of reverberating effects. Given that these lists are to be completed well in advance of the targeting itself, they would allow for the inclusion of technical and expert voices in the process. As such, expert opinion from public health experts and engineers (among other such expert voices) should be included within such processes, through the increased scrutiny of targeting decisions, and positive suggestions of alternative and less disruptive or reckless means. For example, Israel has also created a 'sensitive site' list, marking objects protected under IHL, as well as those that 'warrant special consideration for policy reasons'.<sup>232</sup> As such, even without creating explicit no-strike lists, militaries can highlight the sensitivity of key infrastructure or other pertinent sites that may have an impact on the ESC

---

<sup>229</sup> Mauer, *note 120*.

<sup>230</sup> Dill, J., *Legitimate targets?: social construction, international law and US bombing legitimate targets*, (Cambridge: Cambridge University Press, 2015), p.148.

<sup>231</sup> *Ibid*, p.150.

<sup>232</sup> Israel Ministry of Foreign Affairs, '*The 2014 Gaza Conflict: Factual and Legal Aspects*'. Report, 14 June 2015, pp.145-6.

rights of the population, therefore allowing military personnel to be attuned to the significance of such sites.

### *iii. Training*

Whilst the full appreciation of the reverberating effects of an attack may require expert knowledge, militaries should seek to train personnel on the typical reverberating effects of attacks in a manner that is appropriate to the circumstances of the environment. For instance, this may be on the health risks of the destruction of water systems and infrastructure. Given the practical difficulties in fully communicating these issues, it is certainly possible to provide base level trainings, in increasing depth as personnel increase in rank. This can embolden the knowledge available at the time at both the subjective and objective levels, through training the individual and expecting a modicum of knowledge from a 'reasonable' commander. Further, it appears feasible to provide training to personnel (including weapons controllers) on easily identifiable infrastructure, such as infrastructure that is identifiable from the air.<sup>233</sup> Whilst it may be difficult or resource and time intensive to provide training to such personnel on the reverberating effects of attacks on such infrastructure, it will at least allow this information to be easily communicated throughout the targeting process and in doing so, will help to better inform the decision making process and account for potential effects on the ESC rights of the population.

In 2010, the Israeli Minister of Foreign Affairs highlighted the creation of new written procedures requiring Humanitarian Affairs Officers to be assigned in every combat unit, from battalion level or higher. Such Humanitarian Affairs Officers were to be tasked with the provision of advice and educational activities for commanding officers and soldiers in relation to the protection of civilians, civilian property and importantly, infrastructure, as well as humanitarian measures, such as the planning of assistance and documentation of humanitarian safeguards.<sup>234</sup> By embedding such focal points into combat units, training can not only be diffused, but also, individual advice provided to commanders, and even soldiers more easily.

---

<sup>233</sup> Zeitoun & Talhami, *note 67*, p.69.

<sup>234</sup> Israel, Ministry of Foreign Affairs, *note 94*, section 151.



#### *iv. Collection of information*

The basic layout of infrastructure and services systems should be obtained where feasible. This may be through the ready identification of visible installations, such as water treatment plants,<sup>235</sup> through gaining expert opinion from engineers specialised in urban services (e.g. water or power supplies) or through obtaining information of the layout though the final option will be potentially difficult even with the luxury of time.<sup>236</sup> It is of note, that (as highlighted above) the Israeli Minister of Defence stated the need to conduct research on, identify and mark existing infrastructural systems in the planning of an attack.<sup>237</sup> As this requirement was said to include infrastructure pertaining to a number of ESC rights, the extension of such an obligation across militaries would be a valuable asset in protecting ESC rights across conflicts generally.

Further, by liaising with stakeholders, such as local authorities, humanitarian organisations and militaries, it may be possible to gain information on the typical impacts of attacks.<sup>238</sup> The information held by such bodies, particularly in regards to civil society groups and humanitarian agencies may also be accessible through open-source materials.<sup>239</sup> This may be particularly helpful in obtaining information on the resilience of the community, and their mode of interaction with services, for example, whether the community tends to have access to personal water tanks. The duty under IHRL to pay particular attention to vulnerable and marginalised communities will also mandate the collection of information on their susceptibility to harm. Where this information is collected, it will help to inform analysis of how the effects of an attack will manifest, and the extent of incidental harm that is likely to be caused.

Beyond this, the ICRC's guidance on the information that should be collected in the preparation of an attack has proved influential.<sup>240</sup> However, in its current form, the requirements appear to relate primarily to the first-tier impacts of an attack, i.e. the direct causation of civilian death. Though some of the requisite information may be used to foresee the reverberating effects of an attack, such as the natural environment and the nature of built up areas, these requirements may be bolstered to more explicitly

---

<sup>235</sup> Zeitoun & Talhami, *note 67*, p.69.

<sup>236</sup> *Id.*, p.68

<sup>237</sup> Israel, Ministry of Foreign Affairs, *note 86*, section 151.

<sup>238</sup> Zeitoun & Talhami, *note 67*, p.69.

<sup>239</sup> *Id.*

<sup>240</sup> De Mulinen, F., *note 83*.

cover long-term impacts. For instance, it may create obligations to collect information on infrastructure within built up areas, or vulnerabilities of the civilian population. Should such guidance be developed, this would hopefully act as a lobbying point in improving military intelligence gathering, pushing forward the protection of ESC rights within conflict zones.

#### *v. Collateral Damage Estimation Methodologies*

As highlighted above, one of the ways in which militaries may seek to operationalise ESC rights within their targeting processes is by including the reverberating effects of an attack within CDM. Nevertheless, at present CDM systems place an emphasis on the first-tier impacts of an attack.<sup>241</sup> However, in order to include the reverberating effects, the historical observations may include effects of the ESC rights of populations as a result of previous attacks, or empirical data on the vulnerabilities of the population or the potential emergence of threats to ESC rights (for example of the potential spread of disease within the environment). Additionally, the ICESCR requires States to make available relevant technologies, such as epidemiological surveillance<sup>242</sup> it could be possible to adopt these indicators within military practices. Moreover, humanitarian agencies, have developed methodologies to capture the vulnerabilities of the population, including within conflict zones.<sup>243</sup> Similar approaches may be utilised by militaries in capturing this information. Further, communication between military and humanitarian actors can ensure that the rights impacts (often addressed in more detail by humanitarian actors) are communicated to the military, therefore expanding military awareness in a resource effective manner. In this sense, the analysis of communities' level of vulnerability, or the potential spread of disease, can help to inform the decision making process through the utilisation of indicators on issues such as food or water security, or even the precarity of a population's access to health services. Whilst CDM is not necessarily used as a proportionality assessment tool in-and-of-itself, by helping to identify the effects of an attack it can help decision-makers identify means and methods that are the least harmful to the civilian population, thereby improving humanitarian protection within attacks.<sup>244</sup>

---

<sup>241</sup> Cronin, *note 4*, p.141.

<sup>242</sup> CESCR, General Comment 14, para 16.

<sup>243</sup> See: Goldberg, E., 'Open Data Platform Lets Aid Groups Respond More Efficiently To Crises,' (2018) *Huffington Post*, 31 May 2016, accessed at: [https://www.huffpost.com/entry/open-data-platform-enables-aid-groups-to-respond-more-efficiently-to-crisis\\_n\\_574876fee4b03ede4414a6a4](https://www.huffpost.com/entry/open-data-platform-enables-aid-groups-to-respond-more-efficiently-to-crisis_n_574876fee4b03ede4414a6a4) on 5 November 2019.

<sup>244</sup> Schmitt, M., *et al*, 'Joint and Combined Targeting', in Ohlin, J.D., *et al*, (eds) *Weighing Lives in War*, (Oxford: Oxford University Press, 2017), p.303.

*vi. Means and methods of warfare*

As discussed above, States have an obligation to take all feasible precautions in the choice of means and methods of attack in order to avoid or minimise incidental harm to the civilian population.<sup>245</sup> The use of explosive weapons in urban areas has the potential to cause significant first-tier harm, as well as costly impacts on ESC considerations, such as the effects on civilian health and essential services.<sup>246</sup> Given the scale of harm that can result from such practices, armed groups should prohibit the use of explosive weapons within urban environments, these attacks should be avoided on the basis that they will be inherently indiscriminate and in past practice have had disproportionate impacts on the civilian population.<sup>247</sup> It is of note that the use of explosive weapons poses threats not only in the immediate term, through the infliction of death upon intended detonation, but also poses a significant threat well after the attack, in terms of the degradation of services and infrastructure as well as leaving explosive remnants within urban environments that may detonate uncontrollably later.<sup>248</sup>

*vii. Battle damage assessment*

At present, militaries, such as the US military, order assessments to be completed following an attack.<sup>249</sup> Whilst this is currently restricted to the immediate impact of the attack, the expansion of this assessment, both geographically and temporally, may allow for lessons to be learned. The long term impacts of hostilities are currently being conducted by NGOs and UN agencies, and can perhaps be relied upon by militaries, or they choose to conduct such assessments themselves. In doing so, the knowledge gained can help build an experiential knowledge-base, and direct the minds of military personnel towards the importance of the reverberating effects of military actions. Further, the collected information can help to improve existing processes. As highlighted above, CDM includes historical effects of their attacks, the collected information can therefore aid their CDM measurements, or

---

<sup>245</sup> API, Article, 57(2)(a)(ii).

<sup>246</sup> ICRC, '*Explosive Weapons in Populated Areas: Humanitarian, Legal, Technical and Military Aspects. Switzerland: Report of the ICRC Expert Meeting in Chavannes- de- Bogis,*' Report, 2015, pp.14-16.

<sup>247</sup> ICRC, '*International humanitarian law and the challenges of contemporary armed conflicts,*' Report, October 2011, Doc. 31IC/11/5.1.2, pp. 40–42.

<sup>248</sup> Robinson & Nohle, *note 40*, p.115.

<sup>249</sup> Cross, K., *et al*, '*Explosive Weapons in Populated Areas: technical considerations relevant to their use and effects,*' *Armament Research Services*,2016, Report, p.46.

analogue decision-making through the collection of quantitative and qualitative information on the effects of an attack on the civilian population through time.

#### *vii. Rules of Engagement*

Whilst it is accepted that within active hostilities, the threats that are captured must ultimately relate to civilian death and injury or damage of civilian property. However, it is nevertheless recognised that attacks may have severe repercussions on aspects of well-being that are not inherently tied to these considerations, such as their social fulfilment or economic well-being. Additionally, the nexus between such impacts and conflict has been recognised by militaries, and are increasingly tied into military practices.<sup>250</sup> Though this would not arise from an obligation derived from IHL, militaries may choose to develop rules of engagement that better respect the ESC rights of the population.<sup>251</sup>

Müller, in developing the argument of Haines, states that the obligations stipulated by the ICESCR to provide the swift reconstruction of civilian infrastructure to allow for the resumption of civilian life as soon as possible after the cessation or winding-down of conflict, can influence the interpretation of what constitutes a 'military objective.' Here, it is argued that what constitutes a military objective, in that its 'partial or total destruction, capture or neutralisation, in the circumstances ruling at the time,' in relation to the 'definite military advantage' gained should be read in light of the reconstruction obligation.<sup>252</sup>

Haines emphasises that such post or late-conflict reconstruction activities will be essential for the overall success of a military campaign.<sup>253</sup> Haines asserts that as a result, the post-combat phase will influence and potentially restrict the active combat phase. Here, he argues, the requirements of the post-combat phase must be considered alongside those of the immediate combat, influencing how one can understand 'military advantage.' For instance, where the targeting of essential infrastructure may provide a short-term and momentary military advantage, this advantage may manifest as a distinct disadvantage where it undermines future reconstruction efforts and the ability of the community to

---

<sup>250</sup> See: UK, Ministry of Defence, '*JSP 1325 Human Security in Military Operations Part 1: Directive*,' 2019.

<sup>251</sup> Jachec-Neale, A., *note 27*, p.244

<sup>252</sup> Müller, *note 196*, p.165.

<sup>253</sup> Haines, S., 'The United Kingdom and Legitimate Military Objectives: Current Practice ... and Future Trends' in Heintschel von Heinegg and Epping (eds.), *International Humanitarian Law Facing New Challenges—Symposium in Honour of Knut Ipsen* (Berlin: Springer, 2006), p.137.

resume normal life, that necessarily will follow the active stages of the conflict. Importantly, Haines does not argue that this requirement to include long-term considerations into the determination of what constitutes a military advantage arises out of legal obligations, arising from the concurrent application of IHL and IHRL. He nevertheless does not exclude this possibility and identifies the emergence of a moral requirement to operate in this manner.

Nevertheless, this position can be potentially problematic. The extension of 'military advantage' to include long-term considerations, can have adverse consequences for humanitarian protection. The widening of the temporal scope of military advantage can allow decision-makers to justify almost any action on the basis that they will achieve some nebulous wider advantage, such as winning the military campaign.<sup>254</sup> For this reason, phrasing the obligation in terms of a need to expand the temporal scope of a military advantage should be avoided, and instead, the need to include post and late conflict reconstruction, should be included within military process in a very explicit manner that concerns reconstruction specifically without leaving room for militaries to subvert the humanitarian protections conferred by the law.

---

<sup>254</sup> Jachec-Neale, A., *note 27*, p.117.

## Conclusion

As international opinion and jurisprudence shifts towards the concurrent application of IHL and IHRL in armed conflict, the tools for strengthening the protection of civilians in armed conflict are increasingly expanded. Further, increasing awareness of, and humanitarian concern for, the long-term impacts of conflict has meant that militaries are better able to embed these issues within their targeting practices, utilising technological innovations and a wealth of expert knowledge. The argument made throughout these pages has been that the collection of such information, as required by IHL and IHRL, can help to provide a comprehensive assessment of the effects of an attack, capturing the impacts across time and space. Though some have contended that the non-derogability of survival rights may create legal obligations for States to refrain from attacks that would violate the minimum core obligations tied to ESC rights, this position is ultimately fragile. Whilst these issues will filter into decisions, and will feature highly in the humanitarian side of the proportionality scale, they will remain tempered by the anticipated military advantage. In this respect, the sometimes clinical practicality of IHL will continue to allow for serious infringements on the ESC rights of the population within active hostilities. Further to this, States do not have a legal obligation to weigh the non-survival rights of the population against the expected military advantage, leaving a significant gap in the protection of the ESC rights of the population, and leaving us to rely on the specific provisions that specifically cover these areas, such as the provisions on the targeting of cultural well-being, to protect these features of civilian well-being. This is particularly important where developing literature, particularly in respect to the concept of human security and counter-insurgency theory, has increasingly recognised the nexus between human fulfilment and the outbreak of conflict. Nevertheless, the concurrent application of IHL and IHRL can prove of some assistance here by bolstering the argument that negative impacts to mental health should be included within the proportionality assessment and precautionary measures.

With these issues in mind, the obligation to incorporate the need to protect ESC rights into targeting procedures prior to the proportionality assessment itself is perhaps the best way in which we can protect the long term safety and respect for civilians. The obligation provided for by the complementary application of IHRL and IHL to actively expand awareness, develop technologies and ensure training and active communication (among other such strategies), can allow for reverberating effects to be

captured by military analysis. Once such information has been brought to their attention, it should factor into proportionality assessments, mandating military advantages be particularly strong to justify a targeting decision. This ultimately reflects the ways in which proportionality confers protection, through the development of procedural safeguards. It will remain difficult to challenge targeting, as it will always involve some degree of subjective weighing of immeasurable concepts (civilian harm and military advantage), nevertheless, we can ensure that the actual civilian harm is properly accounted for and considered.

## Bibliography

### Articles

- Bothe, M., 'The Protection of the Civilian Population and NATO Bombing on Yugoslavia: Comments on a Report to the Prosecutor of the ICTY' (2001) *European Journal of International Law*, 12(3) (2001);
- Corn, G., & Corn, G., 'The Law of Operational Targeting: Viewing the LOAC Through an Operational Lens,' (2011) 47: 2, *Texas International Law Journal*, 337-380;
- Crawford, J., 'The Law of Non-combatant Immunity and the Targeting of National Electrical Power Systems,' (1997) *Fletcher Forum of World Affairs*, 21(2), 101- 120;
- Droege, C., 'Get Off My Cloud: Cyber Warfare, IHL and the Protection of Civilians', (2012), *International Review of the Red Cross*, 94(886), 533-578;
- Droege, C. & Tougas, M-L., 'The Protection of the Natural Environment in Armed Conflict: Existing rules and need for further legal protection' (2013) *Nordic Journal of International Law*, 82(1), 21-52;
- Goodman, R., 'The Obama Administration and Targeting War-Sustaining Object in Non-international Armed Conflict, ' (2016) *American Journal of International Law*, 110:4, 663-679;
- Henderson, I. & Reece, K., 'Proportionality under International Humanitarian Law: The Reasonable Military Commander Standard and Reverberating Effects' (2018) *Vanderbilt Journal of Transnational Law*, 51(3), 835-856;
- King, I., 'The Legality of Attacking War-Sustaining Economic Objects,' (2018) *Stanford Journal of International Law*, 54:1, 49-82;
- Lubell, N., "Human rights obligations in military occupation' (2012) *International Review of the Red Cross*, 94(885), 317-338;
- Mottershaw, E., 'Economic, social and cultural rights in armed conflict: International human rights law and international humanitarian law,' *International Journal of Human Rights*, (2008) 12(3), 449-470;
- Müller, A., 'The Right to Health and International Humanitarian Law: Parallel Application for Building Peaceful Societies and the Prevention of Armed Conflict,' (2014), *Wisconsin International Law Journal*, 32(3), 415-456;
- Robinson, I., & Nohle, E., 'Proportionality and precautions in attack: The reverberating effects of using explosive weapons in populated areas', (2016) *International Review of the Red Cross*, 98(1), 107-146;
- Sassóli, M., 'Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to be Clarified', (2014) *International Law Studies*, 90, 308-340;
- Schmitt, M., 'Wired Warfare: Computer Network Attack and Jus in Bello', (2002), *International Review of the Red Cross*, 84(846), 365-400;
- Vandenbogaerde, A., 'Jurisdiction Revisited - Attributing Extraterritorial State Obligations under the International Covenant on Economic, Social and Cultural Rights,' (2015) *Human Rights & International Legal Discourse*, 9(1), 6-33;
- Weinthal, E. & Sowers, J., 'Targeting infrastructure and livelihood in the West Bank and Gaza' (2019) 95:2, *International Affairs*, 319-340;
- Zeitoun, M. & Talhami, M., 'The impact of explosive weapons on urban services: Direct and reverberating effects across space and time,' (2016) *International Review of the Red Cross*, 98(901), 53-70.

### Books

- Boothby, W.H., *The Law of Targeting*, (Oxford: Oxford University Press, 2012);
- Bothe, M. et al, *New Rules for Victims of Armed Conflicts: Commentary on the Two 1977 Protocols Additional to the Geneva Conventions of 1949*, (Leiden: Martinus Nijhoff, 2013);
- Cronin, B., *Bugsplat: the politics of collateral damage in western armed conflicts* (Oxford University Press, 2018);
- Dill, J., *Legitimate targets?: social construction, international law and US bombing legitimate targets*, (Cambridge: Cambridge University Press, 2015);
- Dinstein, Y., *The Conduct of Hostilities under the Law of International Armed Conflict*, (2nd edn.), (Cambridge : Cambridge University Press, 2010);
- Giacca, G., *Economic, Social and Cultural Rights in Armed Conflict*, (Oxford: Oxford University Press, 2014);
- Gill, T.D., & Fleck, D. (eds.) *The Handbook of the International Law of Military Operations* (2nd edn.). Oxford: OUP Oxford, 2015);
- Graham, S., *Cities Under Siege: The New Military Urbanism*, (London: Verso, 2010);



Heintschel von Heinegg and Epping (eds.), *International Humanitarian Law Facing New Challenges—Symposium in Honour of Knut Ipsen* (Berlin: Springer, 2006);

Henderson, I., *The Contemporary Law of Targeting: Military Objectives, Proportionality and Precautions in Attack under Additional Protocol I*, (Leiden: Martinus Nijhoff, 2009);

Jachec-Neale, A., *The Concept of Military Objectives in International Law and Targeting Practice*, (Hoboken: Taylor & Francis, 2014);

Kalshoven, F., & Zegveld, L., *Constraints on the Waging of War: An Introduction to International Humanitarian Law*, (4th edn.), (Cambridge: Cambridge University Press, 2011);

Murray, D., *The Human Rights Obligations of Non-State Armed Groups*, (Oxford: Hart Publishing, 2016);

Murray, D., et al., *Practitioners' Guide to Human Rights Law in Armed Conflict*, (Oxford: Oxford University Press, 2016);

Müller, A., *The Relationship Between Economic, Social and Cultural Rights and International Humanitarian Law: an analysis of health-related issues in non-international armed conflicts*, (Leiden: Martinus Nijhoff Publishers, 2013);

Ohlin, J.D., et al., (eds) *Weighing Lives in War*, (Oxford: Oxford University Press, 2017);

Rogers, A.P.V., *Law on the battlefield*, (2nd edn.) (Manchester: Manchester University Press, 2004);

Rogers, A.P.V., *Law on the battlefield*, (3rd edn.) (Manchester: Manchester University Press, 2012);

Ronzitti & Venturini (eds.), *The Law of Air Warfare— Contemporary Issues* (Utrecht: Eleven International Publishing, 2006);

Schmitt, M., *Tallinn Manual on the International Law Applicable to Cyber Warfare*, (Cambridge: Cambridge University Press, 2013);

Schmitt, M., *Tallinn manual 2.0 on the international law applicable to cyber operations*, (Cambridge: Cambridge University Press, 2017);

Yamin, A.E., *Power, Suffering, and the Struggle for Dignity*, (Philadelphia: University of Pennsylvania Press, 2016).

## Cases

*Advisory Opinion Concerning Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, ICJ, 9 July 2004;

*Ahmet Ozkan and Ors v Turkey*, App. no. 21689/93 (ECtHR, 6 April 2004);

*Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda)*, ICJ Report 2005, ICJ, p.116 19 December 2005;

*Bilgin v Turkey*, Judgment, App. no. 23819/94 (ECtHR, 16 November 2000);

*Case of Afro-Descendent Communities Displaced from the Cacaria River Basin (Operation Genesis) v Colombia*, Judgment, IACtHR, 20 Nov 2013;

*Coard et al v United States*, Decision, IACHR, Case 10.951, 29 September 1999;

*Ergi v. Turkey*, Judgment, App. no. 66/1997/850/1057 (ECtHR, 28 July 1998);

*Esmukhambetov & Ors v Russia*, Judgment, App. no. 23445/03 (ECtHR, 29 March 2011);

*Hassan v. the United Kingdom*, Judgment, App. no. 29750/09 (ECtHR, 16 September 2014);

*Intuango Massacres v Colombia*, Judgment, IACtHR 1 July 2006;

*Isayeva v Russia*, Judgment, App. no. 57950/00 (ECtHR, 24 February 2005);

*Isayeva, Yusupova and Bazayeva v Russia*, App. no. 57950/00 (ECtHR, 24 February 2005);

*Kerimova & Ors v Russia*, Judgment, App. nos. 17170/04, 20792/04, 22448/04, 23360/04, 5681/05, and 5684/05 (ECtHR, 3 May 2011);

*Khashiyev and Akayeva v Russia*, Judgment, App nos. 57942/00 and 57945/00 (24 February 2005);

*Khatsiyeva and Ors v Russia*, App. no. 5108/02 (ECtHR, 17 January 2008);

*Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports 1996, p. 226, ICJ, 8 July 1996;

*Mapiripan Massacre v. Colombia*, Judgment, IACtHR, 15 September 2005;

*Orhan v Turkey*, Judgment, ECtHR, 18 June 2012;

*Prosecutor v Galić*, Case No. IT-98-29, Judgment (Trial Chamber), 30 November 2003);

*Sawhoyamaya Indigenous Community v Paraguay*, Judgment, IACtHR, 29 March 2006;

*Selcuk and Asker v Turkey*, Judgment, App. nos. 12/1997/796/998–999 (ECtHR, 24 April 1998);

*Serrano Cruz v. El-Salvador*, Preliminary Objections, IACtHR, 23 November 2004;

## Military & State documents

Australia, the Manual of the Law of Armed Conflict, Australian Defence Doctrine Publication 06.4, Australian Defence Headquarters, 11 May 2006;

HPCR, *Manual on International Law Applicable to Air and Missile Warfare, Program on Humanitarian Policy and Conflict Research at Harvard University*, February 2010;

Israel, Ministry of Foreign Affairs, Gaza Operation Investigations: Second Update, 19 July 2010;

Israel Ministry of Foreign Affairs, *'The 2014 Gaza Conflict: Factual and Legal Aspects'*. Report, 14 June 2015;

Spain, Ministry of Defence, *Orientaciones: El derecho de los conflictos armados*, OR7-004, 18 March 1996, Vol. 1;

UK Ministry of Defence, *'JSP 1325 Human Security in Military Operations Part 1: Directive'*, 2019;

UK Ministry of Defence, *the Joint Service Manual of the Law of Armed Conflict*, JSP 383, 2004, amended in 2013;

US Army Field Manual on Intelligence Support to Urban Operations, FM 2-91.4, 2008

US Chairman of the Joint Chiefs of Staff, *No Strike and the Collateral Damage Estimation Methodology*, Instruction, (2012) CJCSI 3160.01A;

US Department of Defence, Law of War Manual, 2015;

US Department of the Army, *Counterinsurgency*, FM-24/MCWP 3-33.5, 2006;

US Joint Chiefs of Staff, Joint Urban Operations, JP 3-06, 2013,

### Press

Goldberg, E., 'Open Data Platform Lets Aid Groups Respond More Efficiently To Crises,' (2018) *Huffington Post*, 31 May 2016, accessed at: [https://www.huffpost.com/entry/open-data-platform-enables-aid-groups-to-respond-more-efficiently-to-crises\\_n\\_574876fee4b03ede4414a6a4](https://www.huffpost.com/entry/open-data-platform-enables-aid-groups-to-respond-more-efficiently-to-crises_n_574876fee4b03ede4414a6a4) on 5 November 2019;

Mauer, P., *'The Use of Armed Drones Must Comply with Laws'*, ICRCs, 10 May 2013, <http://intercrossblog.icrc.org/blog/use-of-armed-drones-must-comply-with-laws-says-icrc-president>, accessed 4 November 2019.

### Reports, non-military handbooks & background papers

Burnet Institute, International Rescue Committee, *'Mortality in the Democratic Republic of Congo: An Ongoing Crisis'*, Report, May 2007;

CESCR, *List of issues to be taken up in connection with the consideration of the 5th periodic report of Colombia, concerning articles 1 to 15 of the International Covenant on Economic, Social and Cultural Rights*, 10 June 2009, E/C.12/COL/Q/5

Cross, K., *et al*, 'Explosive Weapons in Populated Areas: technical considerations relevant to their use and effects,' *Armament Research Services*, Report, 2016;

De Mulinen, F., *Handbook on the Law of War for Armed Forces*, ICRC, Geneva, 1987

Gillard, E.C., *'Proportionality in the conduct of hostilities: the incidental harm side of proportionality assessments'*, Chatham House Research Paper, 2018;

Harvard Law School International Human Rights Clinic, PAX, *'Operating under Fire Cover: The Effects of Explosive Weapons on Health Care in the East of Ukraine'*, Report, May 2017;

ICRC, *'Explosive Weapons in Populated Areas: Humanitarian, Legal, Technical and Military Aspects. Switzerland: Report of the ICRC Expert Meeting in Chavannes-de-Bogis'*, Report, 2015;

ICRC, *'International humanitarian law and the challenges of contemporary armed conflicts'*, Report, October 2011, Doc. 31IC/11/5.1.2

ICRC, *'The Rules Governing the Conduct of Hostilities Under International Humanitarian Law: International Expert Meeting 22-23 June 2016'*, Report, 2016;

OHCHR, *'Protection of Economic, Social and Cultural Rights in Conflict'*, Report, 2015;

OHCHR, *Report of the High Commissioner for Human Rights*, 19 May 2015, E/2015/59;

Schmitt, M., *et al*, Computers and War: the legal battlespace, background paper prepared for the Informal High-level expert meeting on Current challenges to international humanitarian law, Cambridge, 25-27 June 2004;

University Centre for International Humanitarian Law Geneva, Expert meeting on targeting military objectives, Report, 12 May 2005;

Wille, C., *'Implications of the Reverberating Effects of Explosive Weapons Use in Populated Areas for Implementing the Sustainable Development Goals'*, United Nations Institute for Disarmament Research (UNIDIR), 2016;

## *Treaties*

ICRC, Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977, 1125 UNTS 3;

UNGA, International Covenant on Economic, Social and Cultural Rights, 16 December 1966, UNTS, vol. 993, p. 3;

Vienna Convention on the Law of Treaties, 23 May 1969, UNTS, Vol. 1155.

## UN Committee on Economic, Social & Cultural Rights & Human Rights Committee General Comments

CESCR, *General Comment No. 3: The Nature of States Parties' Obligations (Art. 2, Para. 1, of the Covenant)*, 14 December 1990, E/1991/23;

CESCR, *General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12 of the Covenant)*, 11 August 2000, E/C.12/2000/414;

CESCR, *General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant)*, 20 January 2003, E/C.12/2002/11;

CESCR, *General Comment No. 17: The Right of Everyone to Benefit from the Protection of the Moral and Material Interests Resulting from any Scientific, Literary or Artistic Production of Which He or She is the Author (Art. 15, Para. 1 (c) of the Covenant)*, 12 January 2006, E/C.12/GC/17;

CESCR, *General Comment No. 19: The right to social security (Art. 9 of the Covenant)*, 4 February 2008, E/C.12/GC/19;

HRC, *General comment no. 31 [80], The nature of the general legal obligation imposed on States Parties to the Covenant*, 26 May 2004, CCPR/C/21/Rev.1/Add.13.