

# The overlooked importance of intelligence analysis in IHL

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## Abstract

*Decision-makers rely on intelligence to make targeting decisions that comply with international humanitarian law (IHL), yet the relationship between intelligence and the law is not frequently discussed. This article explores crucial elements of intelligence and intelligence analysis that decision-makers should understand to increase their compliance with IHL, focusing on three crucial decision points: (1) the determination of whether a potential target is a military objective, (2) proportionality in attack analysis, and (3) the taking of effective precautions.*

**Keywords:** intelligence, international humanitarian law, targeting, precautions, proportionality, military objectives, cognitive bias.

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## Introduction

Intelligence analysis is rarely discussed in international humanitarian law (IHL) compliance, except when unanticipated civilian harm occurs. In those cases, a frequent refrain is, “if only the intelligence had been better”. The certainty of an assessment of both the identity and military value of a proposed target, which a leader uses to make a targeting decision, is almost always based on intelligence analysis. Intelligence also drives proportionality assessments, and effective precautions rely on an intelligence understanding of the operating environment. Therefore, military decision-makers and lawyers rely heavily on intelligence assessments to determine whether a specific military action will comply with IHL. However, the relationship between intelligence and IHL is an under-studied and sometimes misunderstood topic. Without a sufficient understanding of intelligence disciplines and analysis, including inherent weaknesses and common cognitive biases, undue weight or reliance on vague or incorrect intelligence analysis may result in inaccurate conclusions on confidence in identification, proportionality analysis or effective warnings. Thus, steps that could be taken to mitigate these deficiencies will go untaken.

In certain situations, civilian casualties are caused when engaging a military objective with a careful proportionality analysis and a decision that every feasible precaution has been taken but that incidental civilian harm is necessary and not excessive to the military advantage to be gained from damaging or destroying the target. In other cases, civilian casualties are the result of misidentification of the target, unidentified presence of civilians in the weapon affects area or sometimes even unanticipated effects of weapon employment (for example, secondary explosions due to unidentified additional explosives inside a building or the collapse of a block due to an unidentified underground tunnel). In some cases, gathering intelligence and fully identifying those risks would have been near impossible, but in other cases, the civilian casualties are due to a mischaracterization or misunderstanding of the intelligence or the level of certainty in the intelligence analysis presented. Decision-makers can reduce the number of situations that fall into the latter category by obtaining a better understanding of the intelligence field.

A full understanding of intelligence and intelligence analysis can lead decision-makers to better targeting decisions in the moment, and will also allow them to understand the range of additional intelligence that could be collected to increase certainty in their decision-making. For example, a blurry image could lead to a request for electronic intelligence that would collect emissions from those same coordinates and match the emission to military radar data, or electronic intelligence indicating a weapons system radar could lead to collection of imagery which indicates that a large civilian apartment complex is nearby. In academia, significant attention and analysis exists on the level of certainty required for decision-makers<sup>1</sup> to make a targeting decision in compliance with IHL, but significantly less attention

1 Geoffrey S. Corn, “Targeting, Command Judgement, and a Proposed Quantum of Information Component: A Fourth Amendment Lesson in Contextual Reasonableness”, *Brooklyn Law Review*, Vol.

and analysis exists on how one might get to whatever level of certainty is deemed to be required (e.g., the understanding of the intelligence provided that is necessary to reach a level of certainty for decision-making purposes).

This article explains the crucial role of military intelligence in complying with IHL and the ways in which knowledge of how military intelligence works can result in better protective outcomes for civilians in armed conflict. It does so by looking at three concrete decision points: (1) the determination of whether a potential target is a military objective, (2) proportionality in attack analysis, and (3) the taking of effective precautions. Critical to a reasonable decision is a fair evaluation of the supporting evidence, including the quality and credibility of the underlying sources, data and methodologies used to reach an intelligence assessment, existing uncertainties, and possible alternative explanations. Intelligence analysts, if following analytic and tradecraft standards, should be able to provide all of this information in order for a reasonable targeting decision to be made. Understanding the complexity of intelligence and intelligence analysis aids decision-makers in making good-faith and reasonable targeting decisions.

This article primarily provides details from a US military perspective;<sup>2</sup> however, the underlying principles on the value of intelligence apply *mutatis mutandis* to all militaries' IHL compliance, although the exact processes may vary.

## Requirements for decision-makers in IHL

IHL requires the decision-maker to have a reasonable level of certainty that a target is a valid military objective.<sup>3</sup> The requisite level of certainty and how a decision-maker gets there is explained slightly differently by different sources, sometimes dependent on the decision to be made.<sup>4</sup> The International Expert Meeting on the Principle of Proportionality in the Rules Governing the Conduct of Hostilities under International Humanitarian Law discussed several opinions on the standard for evaluating the decisions made by decision-makers. Although there was not a consensus, all suggestions included some version of either “reasonable”, “honest” or both.<sup>5</sup>

Decision-makers do not always get “exquisite” intelligence; this is sometimes due to faults in the analysis that led to an inaccurate level of confidence in the

77, No. 2, 2012. See also Michael N. Schmitt and Michael Schauss, “Uncertainty in the Law of Targeting: Towards a Cognitive Framework”, *Harvard National Security Journal*, Vol. 10, No. 1, 2019.

2 US military doctrine and policy citations throughout this article only use materials that are publicly available. Although some of the doctrine citations may have updated versions, these are not referenced due to their limited releasability. The author believes the points made in this article are still valid.

3 Nils Melzer, *Interpretive Guidance on the Notion of Direct Participation in Hostilities under International Humanitarian Law*, International Committee of the Red Cross (ICRC), Geneva, May 2009, p. 76: “Obviously, the standard of doubt applicable to targeting decisions cannot be compared to the strict standard of doubt applicable in criminal proceedings but rather must reflect the level of certainty that can reasonably be achieved in the circumstances.”

4 See the discussion in M. N. Schmitt and M. Strauss, above note 1.

5 Laurent Gisel, *The Principle of Proportionality in the Rules Governing the Conduct of Hostilities under International Humanitarian Law*, ICRC, Geneva, August 2018, p. 53.

assessment, and other times due to a dearth of intelligence information that prevents confident assessments. It is common knowledge that no weapons system is perfect, and that the targeting through which the system engages is only as good as the intelligence on which it is based. In practice, decision-makers make a determination based on the intelligence available at the time, the urgency of the situation and the likely harm that may result to their forces or protected persons and objects if their decision is wrong.<sup>6</sup> Additionally, decisions must be made on the “decision-maker’s interpretation of the available information, which may, unknown to him, be unreliable or incorrect”.<sup>7</sup>

In order to increase compliance with IHL and the spirit of the law, decision-makers – and particularly commanders who have the ability to affect intelligence and operational processes – have obligations in regard to intelligence. The 1987 Commentary on Additional Protocol I (AP I) explains that the identification of the objective should be carried out with “great care”, noting that

those who plan or decide upon ... an attack will base their decision on information given to them, and they cannot be expected to have personal knowledge of the objective to be attacked and of its exact nature. However, this does not detract from their responsibility, and in cases of doubt, even if there is only slight doubt, they must call for additional information and if need be give orders for further reconnaissance to ... their subordinates .... The evaluation of the information obtained must include a serious check of its accuracy.<sup>8</sup>

Although the Commentary and customary international law recognize that decisions related to attacks are made based on the information available at the time, multiple military manuals stress that the commander must obtain the best possible intelligence.<sup>9</sup> This may require active engagement on the part of the decision-maker to ensure that intelligence collection apparatuses are set up properly,<sup>10</sup> that analysis is rigorous and the level of confidence in such analysis is provided, and that processes exist to collect additional intelligence. The actual collection of additional intelligence may not be feasible depending on the circumstances, but knowledge of intelligence is crucial for the decision-maker to

6 *Ibid.*

7 William H. Boothby, *The Law of Targeting*, Oxford University Press, Oxford, 2012, p. 71.

8 Yves Sandoz, Christophe Swinarski and Bruno Zimmermann (eds), *Commentary on the Additional Protocols*, ICRC, Geneva, 1987, Art. 57, para. 2195.

9 The ICRC Customary Law Study cites the following military manuals: Australia, Benin, Croatia, France, Italy, Madagascar, Nigeria, Spain, Sweden and Togo. See Jean-Marie Henckaerts and Louise Doswald-Beck (eds), *Customary International Humanitarian Law*, Vol. 2: *Practice*, Cambridge University Press, Cambridge, 2005 (ICRC Customary Law Study), Rule 15, § D(III), available at: <https://ihl-databases.icrc.org/en/customary-ihl/rules> (all internet references were accessed in December 2024). See also UK Ministry of Defence, *The Joint Service Manual of the Law of Armed Conflict*, Joint Service Publication 383, 2004 (UK Manual), § 2.5.3.

10 International Criminal Tribunal for the former Yugoslavia, *Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign against the Federal Republic of Yugoslavia*, 13 June 2000 (NATO Bombing Campaign Final Report), para. 29: “The commander must set up an effective intelligence gathering system to collect and evaluate information concerning potential targets.”

determine when more is needed and, if they are unable to acquire further intelligence, what is a reasonable decision to make based on the intelligence available at the time. In order to be able to evaluate the intelligence presented and make reasonable targeting decisions, all decision-makers have an obligation to have an appropriate understanding of intelligence and intelligence analysis.

Good intelligence should provide answers to key questions in order for the decision-maker to make a targeting decision that complies with IHL. The key questions that decision-makers should look to intelligence to answer include, but are not necessarily limited to:

- What is the target and what does it provide to the enemy?
- What is the value of damaging or destroying it?
- Where is it located? Can it and does it move? If so, when was it last located and where might it go?
- How is the target identified, and how can one get positive identification?
- What are the effects on the civilian population (including direct injury/death to civilians, direct damage to civilian objects, and indirect effects)?
- How certain is the analyst of the above answers, and why?

When decision-makers feel that these questions have not been answered, they must press for such answers before making their decision.

## Understanding the intelligence disciplines

Intelligence's key role is to provide decision-makers with analysis of the key aspects of the operating environment in order to assist in the decision-making process.<sup>11</sup> These key aspects can range from identifying the centres of gravity of key enemy systems (such as air defences or ballistic missiles) to determining the intentions and goals of the enemy and their future possible courses of action. Identification of centres of gravity requires intelligence on equipment, numbers, locations, capabilities, defences, networks, interactions and redundancies. The answers are frequently garnered not through a single piece of intelligence but through the integration of multiple pieces of intelligence and a deep understanding of the operating environment. However, decision-makers should start from an understanding of how the analysis they are presented with came to be, if they truly want to make a targeting decision in good faith that it is compliant with IHL.

Any time a decision-maker is presented with specific intelligence, they should frame their understanding of the intelligence around a few key questions:

- What concerns exist with this intelligence type, generally?
- How accurate is this specific piece of intelligence? What is that based on?
- Are there alternate explanations for the intelligence assessment presented?

11 US Department of Defense (DoD), *Joint Intelligence*, Joint Publication 2-0, 22 October 2013 (JP 2-0), pp. I-27–I-28, available at: [https://irp.fas.org/doddir/dod/jp2\\_0.pdf](https://irp.fas.org/doddir/dod/jp2_0.pdf).

- What other intelligence could support or disprove the assessment?

There are six basic intelligence disciplines,<sup>12</sup> each with a different source of the underlying intelligence. Each intelligence source has its own strengths, weaknesses, and vulnerabilities to manipulation and deception.<sup>13</sup> Understanding this and how different sources of intelligence can be fused together is crucial to understanding how certain a decision-maker can be in intelligence assessments underlying the identification of a person or object as a valid military objective.

Geospatial intelligence (GEOINT) is the “analysis and visual representation of security related activities on the earth” and is produced with imagery, imagery intelligence (IMINT) and geospatial information.<sup>14</sup> Examples of GEOINT include the intelligence needed to conduct target coordinate mensuration (the production of latitude, longitude and elevation data for a specific point on the earth, with associated errors, that supports the use of coordinate-seeking weapons),<sup>15</sup> and full-motion video (FMV) with accompanying data on a remotely piloted aircraft.<sup>16</sup>

IMINT is a visual representation of objects derived from visual photography/videography, radar sensors and electro-optics.<sup>17</sup> A common example is a photographic image. IMINT can be used to conduct historical comparisons of enemy military capabilities and can also increase understanding of the physical terrain and civilian aspects such as cultural sites, water and electrical grids.<sup>18</sup> A common concern with IMINT is that photography is a snapshot in time and that things change, which can require re-verifying of the analysis. GEOINT and IMINT cannot show the viewer the inside of objects/buildings, so crucial information may be missing. Video, like FMV, is focused, which may lead to missing important elements of the operating environment outside of the field of view. Additionally, not all imagery is of the same quality, with reduced quality resulting in less certainty in analytical conclusions. For example, is what is displayed in an image truly a missile support vehicle or simply a large civilian van? Frequently, imagery can be paired with other forms of intelligence to get a more comprehensive understanding of the target and the surrounding environment. GEOINT and IMINT cannot tell someone the precise reasons behind movements or actions, but paired with human intelligence and/or signals

12 One of the six intelligence disciplines, technical Intelligence, is not discussed here because it is of less practical importance to the specific IHL argument being made.

13 Richard J. Heurer Jr, *Psychology of Intelligence Analysis*, Novinka Books, New York, 2006, p. 125.

14 Office of the Director of National Intelligence, “What is Intelligence?”, available at: [www.dni.gov/index.php/what-we-do/what-is-intelligence](http://www.dni.gov/index.php/what-we-do/what-is-intelligence).

15 Chairman of the Joint Chiefs of Staff, Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3505.01E, 10 August 2022, p. 1, available at: [www.jcs.mil/Portals/36/Documents/Library/Instructions/CJCSI%203505.01E.pdf?ver=E4-CNCb-Mmf1Ozk\\_Ork4rA%3d%3d](http://www.jcs.mil/Portals/36/Documents/Library/Instructions/CJCSI%203505.01E.pdf?ver=E4-CNCb-Mmf1Ozk_Ork4rA%3d%3d).

16 National System for Geospatial Intelligence, *Geospatial Intelligence (GEOINT) Basic Doctrine*, Publication 1.0, April 2018, p. 11, available at: <https://irp.fas.org/agency/nga/doctrine-2018.pdf>; US Air Force, “MQ-9 Reaper”, March 2021, available at: [www.af.mil/About-Us/Fact-Sheets/Display/Article/104470/mq-9-reaper/](http://www.af.mil/About-Us/Fact-Sheets/Display/Article/104470/mq-9-reaper/).

17 US Air Force, *Intelligence*, Air Force Doctrine Publication 2-0, 1 June 2023 (AFDP 2-0), p. 29, available at: [www.dctrine.af.mil/Portals/61/documents/AFDP\\_2-0/2-0-AFDP-INTELLIGENCE.pdf](http://www.dctrine.af.mil/Portals/61/documents/AFDP_2-0/2-0-AFDP-INTELLIGENCE.pdf).

18 *Ibid.*, pp. 29–30.

intelligence, they may be able to give some indication. Electronic intelligence may also help to confirm the tentative identification made with GEOINT/IMINT.

Measurement and signature intelligence (MASINT) is defined as “information produced by quantitative and qualitative analysis of physical attributes of targets and events [in order] to characterize, locate, and identify them”.<sup>19</sup> While MASINT has a complicated definition, a simple example is the flight profile and range of a cruise missile. Significant information is needed to create signatures with high confidence. Like the prior intelligence disciplines discussed, even with high confidence in the intelligence provided, MASINT cannot provide the definitive intent of the adversary.

Signals intelligence (SIGINT) includes communications intelligence (COMINT), electronic intelligence (ELINT) and foreign instrumentation signals intelligence (FISINT). COMINT consists of information from collecting intercepted foreign communications.<sup>20</sup> It can provide insight into an enemy’s intentions but is not without risk because at best, it provides what an individual believes to be true, not necessarily the objective truth. ELINT is intelligence from the interception of non-communications emitters. An example would be the interception of a military radar emission, leading to the location of the radar or identification of tactics.<sup>21</sup> FISINT is based on technical information from interception of foreign equipment and control systems.<sup>22</sup> This includes intelligence based on video datalinks, telemetry and firing command systems.

Human intelligence (HUMINT) is derived from human sources and can identify or provide insight into enemy plans, strategy, capabilities and intentions.<sup>23</sup> HUMINT sources must be evaluated for credibility, and the resulting intelligence must be treated with caution.<sup>24</sup> Open-source intelligence (OSINT) is intelligence based on publicly available information.<sup>25</sup> It is a growing field for intelligence professionals and can be used to enhance additional collection and analysis, but is susceptible to disinformation purposely spread by the enemy.<sup>26</sup>

Intelligence assessments provided to a decision-maker are frequently a fusion of the various disciplines. All-source intelligence analysis helps reduce uncertainty by finding supporting evidence though other intelligence disciplines

19 JP 2-0, above note 11, p. B-6.

20 *Ibid.*, p. B-5.

21 *Ibid.*, p. B-6.

22 *Ibid.*, p. B-6.

23 *Ibid.*, p. B-4.

24 For a discussion on reliance on unverified and unreliable HUMINT sources in relation to the United States’ assessment that Iraq had weapons of mass destruction, see Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, *Report to the President*, 31 March 2005, available at: <https://govinfo.library.unt.edu/wmd/report/report.html#overview>.

25 AFDP 2-0, above note 17, p. 31.

26 Helen Innes, Andrew Dawson and Martin Innes, “OSINT vs Disinformation: The Information Threats ‘Arms Race’”, Centre for Research and Evidence on Security Threats, 10 October 2023, available at: <https://crestresearch.ac.uk/comment/osint-vs-disinformation-the-information-threats-arms-race/>; “Mis/Disinformation in Open Source Intelligence”, *Janes*, 10 January 2023, available at: <https://podcast.janes.com/public/68/The-World-of-Intelligence-50487d09/0e0a9a26>.

and sources of identification. It can also provide the context for a specific object or event, describing how it fits into the wider operational environment, to support proportionality and precautions analysis. For example, SIGINT identifying a possible military radar emission may lead to GEOINT collection to confirm the radar, provide a more specific location and identify any possible additional military equipment and combatants in the vicinity. Alternatively, GEOINT of possible or probable military equipment in a new location could lead to SIGINT collection to assist in identification of the equipment and determine additional details on the equipment, its tactics and capabilities, and command and control. Additional GEOINT or SIGINT may indicate the presence of civilians or civilian objects in the vicinity. OSINT might indicate that there is humanitarian food distribution which frequently occurs in that area on a certain day of the week. HUMINT or COMINT might indicate that a radar is going to move in a couple of hours to a new location away from any civilians or civilian objects. An all-source intelligence report for a decision-maker would fuse all of the information together and provide the decision-maker with appropriate explanations of assessments, assumptions and level of certainty, enabling them to make an appropriate targeting decision.

## **Analytic tradecraft and the risk of cognitive bias**

Cognitive limitations cause people to apply a simplified strategy or a rule of thumb in order to make judgements and decisions with reduced mental burden.<sup>27</sup> Cognitive biases are the mental errors caused by the application of simplified processing strategies, and research indicates that mere awareness of cognitive biases is not enough to overcome them.<sup>28</sup> Richard J. Heurer Jr surveyed the biases that most influence intelligence analysis in his seminal work, *Psychology of Intelligence Analysis*. A number of cognitive biases are relevant specifically to the field of intelligence analysis. One bias relevant to targeting decisions and the examples discussed in this article is the “best guess strategy”, a coping mechanism for dealing with evidence of uncertain accuracy. Because the mind finds it difficult to cope with complicated probabilistic relationships, if analysts are processing information of uncertain accuracy or reliability, they will tend to make a simple “yes or no” decision, tending to either reject the evidence fully or accept it wholly.<sup>29</sup> This ignores the probabilistic nature of the judgement, leading to overconfidence in assessments.

Another form of cognitive bias is the “out of sight, out of mind” response to an absence of specific evidence. While analysts should ideally be able to identify what relevant information is missing, estimate the impact of the missing information and adjust their confidence in their assessment accordingly, this does

27 R. J. Heurer Jr, above note 13, p. 121.

28 *Ibid.*, pp. 121–122.

29 *Ibid.*, p. 131.



not seem to be the norm.<sup>30</sup> A related bias, although not detailed in Heurer's book, is confirmation bias. Confirmation bias is the tendency to look for confirmation of an original hypothesis while avoiding disconfirmation of what is believed to be correct. This was cited as a reason for the mistaken identification of an aid worker as a member of Islamic State – Khorasan Province (ISIS-K) in the Kabul air strike discussed later in this article, as well as a number of other mistaken identification incidents over the last twenty or so years.<sup>31</sup>

For the United States, one way to reduce the effects of cognitive biases was to introduce analytic standards and analytic tradecraft standards across its intelligence community through an Intelligence Community Directive (ICD) from the Office of the Director of National Intelligence. ICD 203, *Analytic Standards*, requires analytic products to be consistent with the five Analytic Standards: they must be objective, independent of political consideration, timely, and based on all available sources of intelligence information, and they must implement and exhibit the Analytic Tradecraft Standards.<sup>32</sup> The nine Analytic Tradecraft Standards are crucial to good intelligence, for targeting decisions and in general, and bear repeating here. They mandate that any analytic product:

1. properly describes the quality and credibility of underlying sources, data and methodologies;
2. properly expresses and explains uncertainties associated with major analytic judgements;
3. properly distinguishes between underlying intelligence information and analysts' assumptions and judgements;
4. incorporates analysis of alternatives;
5. demonstrates customer relevance and addresses implications;
6. uses clear and logical argumentation;
7. explains change to or consistency of analytic judgements;
8. makes accurate judgements and assessments; and
9. incorporates effective visual information where appropriate.<sup>33</sup>

Targeting decision-makers need to be aware of the requirements of good analytical tradecraft, so that they can assess in good faith the reasonableness of the intelligence assessments provided to them. For example, the US Department of Defense (DoD)

30 *Ibid.*, p. 129.

31 See e.g. DoD, "Pentagon Press Secretary John F. Kirby and Air Force Lt. Gen. Sami D. Said Hold a Press Briefing", 3 November 2021, available at: [www.defense.gov/News/Transcripts/Transcript/Article/2832634/pentagon-press-secretary-john-f-kirby-and-air-force-lt-gen-sami-d-said-hold-a-p/](http://www.defense.gov/News/Transcripts/Transcript/Article/2832634/pentagon-press-secretary-john-f-kirby-and-air-force-lt-gen-sami-d-said-hold-a-p/); Azmat Khan, "Hidden Pentagon Records Reveal Patterns of Failure in Deadly Airstrikes", *New York Times*, 18 December 2021, available at: [www.nytimes.com/interactive/2021/12/18/us/airstrikes-pentagon-records-civilian-deaths.html](https://www.nytimes.com/interactive/2021/12/18/us/airstrikes-pentagon-records-civilian-deaths.html); Stephen Losey, "Investigation: 'Confirmation Bias,' Mistakes Led Coalition to Mistakenly Bomb Syrian Troops", *Air Force Times*, 29 November 2016, available at: [www.airforcetimes.com/news/your-air-force/2016/11/29/investigation-confirmation-bias-mistakes-led-coalition-to-mistakenly-bomb-syrian-troops/](http://www.airforcetimes.com/news/your-air-force/2016/11/29/investigation-confirmation-bias-mistakes-led-coalition-to-mistakenly-bomb-syrian-troops/).

32 Office of the Director of National Intelligence, *Analytic Standards*, Intelligence Community Directive 203, 21 December 2022 (ICD 203), available at: [www.odni.gov/files/documents/ICD/ICD-203\\_TA\\_Analytic\\_Standards\\_21\\_Dec\\_2022.pdf](http://www.odni.gov/files/documents/ICD/ICD-203_TA_Analytic_Standards_21_Dec_2022.pdf).

33 *Ibid.*

recently recognized that operations and intelligence use different standards for certainty terminology and require standardization of terminology.<sup>34</sup> Currently, Analytic Tradecraft Standard 2 sets the US intelligence community's standards for levels of certainty. "Degrees of likelihood" refer to an event or development, while "confidence levels" refer to an analyst's confidence in an assessment or judgement; however, analysts do sometimes mix the two. Additionally, degrees of likelihood are associated with numerical percentage ranges that may be surprising to some decision-makers – for example, "likely" and "probable" include events that are 55% likely to occur, and "unlikely" and "improbable" include events that are 45% likely to occur.<sup>35</sup> The complexity of the standards and the varying analytical frameworks that decision-makers bring to their roles leave the comprehension of intelligence assessments ripe for misunderstanding, if efforts are not undertaken to learn about intelligence disciplines and analytical assessments.

The above assumes that the intelligence analysis meets the standards as described. However, the US National Defense Authorization Act for Fiscal Year 2023 added a requirement for the next five years that every head of an element of the intelligence community must create an ICD 203 training programme with yearly training, presumably because application of the Analytic Standards was found to be lacking.<sup>36</sup> This highlights the additional need for decision-makers to understand intelligence so that they can also understand when the information they have been provided with does not meet standards and is not sufficient for them to make informed targeting decisions.

These standards are taught and applied by the US intelligence community, and while some States may have similar approaches to structured analytical thought, not all of them do. Uncertainties that already exist while evaluating the quality of intelligence assessments are multiplied when one military relies on the intelligence and other targeting information of another State or even a non-State armed group.<sup>37</sup> The RAND Corporation recognized this risk in its independent report on the 2017 retaking of the city of Raqqa, noting that the Syrian Democratic Forces' (SDF) intelligence collection tradecraft was likely not of the same quality as US or coalition practices and "might leave U.S. forces vulnerable to faulty intelligence or manipulation that could increase harm to civilians".<sup>38</sup>

34 DoD, *Civilian Harm Mitigation and Response Action Plan*, 25 August 2022, p. 15, Action 5.e, available at: <https://media.defense.gov/2022/Aug/25/2003064740/-1/-1/1/CIVILIAN-HARM-MITIGATION-AND-RESPONSE-ACTION-PLAN.PDF>.

35 ICD 203, above note 32.

36 James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, HR 7776, 117th Cong., 2022, Sec. 6312, "Annual Training Requirement and Report Regarding Analytic Standards", available at: [https://docs.house.gov/billssthisweek/20221205/BILLS-117hres\\_-SUS.pdf](https://docs.house.gov/billssthisweek/20221205/BILLS-117hres_-SUS.pdf).

37 Stimson Center, *Recommendations and Report of the Task Force on US Drone Policy*, 2nd ed., April 2015; RAND Corporation, *Understanding Civilian Harm in Raqqa and Its Implications for Future Conflicts*, Santa Monica, CA, 31 March 2022, p. 75, available at: [www.rand.org/content/dam/rand/pubs/research\\_reports/RRA700/RRA753-1/RAND\\_RRA753-1.pdf](http://www.rand.org/content/dam/rand/pubs/research_reports/RRA700/RRA753-1/RAND_RRA753-1.pdf) ("the SDF's intelligence collection tradecraft was likely not of the same quality as U.S. or coalition practices around intelligence collection, which posed a risk to the quality of any information received").

38 RAND Corporation, above note 37, pp. 63, 65.

The 2019 Baghuz air strike involving US, coalition and SDF forces that resulted in the death of four to sixty-four civilians (depending on the source) was due to incorrect or incomplete information, such as a reliance on SDF assurances of no civilian presence in the area, US special operations forces on the ground reporting that they could observe no civilians in the area, and an unmanned aerial video with FMV that was “unable to discern any civilians in the area at the time”.<sup>39</sup> A later DoD independent review conducted by a four-star Army general concluded that based on additional information he received that was not available to the ground forces commander (GFC) at the time, “through no fault of his own, the GFC relied on data that was not fully accurate”.<sup>40</sup> Because of the crucial importance of intelligence in targeting, independent characterization and verification is crucial to reducing risk and making a good-faith effort to comply with IHL principles.

## Additional constraints on intelligence

In addition to inherent weaknesses in specific disciplines of intelligence and deficiencies in analytic tradecraft in specific pieces of intelligence or fused intelligence assessments, decision-makers must understand two other key constraints to intelligence analysis: the timeline in which intelligence is needed to make decisions and military resource constraints.

### *Time constraints*

Decision-makers frequently want intelligence as soon as possible, sometimes before the information can be appropriately analyzed, fused with intelligence from other disciplines as appropriate, placed into context, and given a level of confidence in the analytical assessment. Some forms of intelligence take time to collect, process, exploit and disseminate; for example, it may be difficult to immediately get satellite imagery of a new potential target. In some cases, the desire for immediate intelligence answers is based on the necessity of the situation and cannot be changed. In other situations, however, decision-makers should be aware of the trade-offs of immediate or short-turnaround intelligence assessments versus longer-term fused and coordinated intelligence assessments, and should make a thoughtful and reasonable decision to accept those trade-offs based on operational requirements.

39 Ryan Goodman, “Centcom’s Full Statement on Baghuz Strike: Annotated”, *Just Security*, 22 November 2021, available at: [www.justsecurity.org/79304/centcoms-full-statement-on-baghuz-strike-annotated/](http://www.justsecurity.org/79304/centcoms-full-statement-on-baghuz-strike-annotated/); Dave Phillips and Eric Schmitt, “How the U.S. Hid an Airstrike that Killed Dozens of Civilians in Syria”, *New York Times*, 13 November 2021, available at: [www.nytimes.com/2021/11/13/us/us-airstrikes-civilian-deaths.html](http://www.nytimes.com/2021/11/13/us/us-airstrikes-civilian-deaths.html).

40 Michael X. Garrett, “Memorandum for Secretary of Defense, Executive Summary: Review of the Civilian Casualty Incident that Occurred on 18 March 2019 in Baghuz, Syria”, 11 May 2022, available at: <https://int.nyt.com/data/documenttools/mfr-for-secdef-v/21afedb925372e3b/full.pdf>.

## Resource constraints

Every military force wants more intelligence than it has intelligence assets to collect the information. Sometimes this can be mitigated by the reallocation of assets from one theatre to another, but frequently the number of collection requirements requested is simply larger than the intelligence assets can collect. This drives a need for prioritization of collection, and results in some collection requirements regularly not receiving any collection. Without intelligence collection, the underlying questions remain unanswered. In large-scale combat operations, the scale of operations and targeting will be such that many requests for intelligence collection will be unmet. The ability to task multiple assets, as frequently done in the counterterrorism/counter-insurgency fight, will only be available for the highest-priority targets.

The United States prioritizes intelligence collection based on commander priorities. Commander's critical information requirements (CCIRs) are information requirements identified by the commander as being critical to facilitating timely decision making.<sup>41</sup> CCIRs are further divided into two components: priority intelligence requirements (PIRs) and friendly force information requirements (FFIRs).<sup>42</sup> PIRs are generally focused on key enemy information that drives commanders' decision-making. Common examples include key enemy capabilities and where they are located, what the enemy is trying to achieve and how, and command and control methods and key locations. Rarely are civilian objects and other elements of the civilian environment included, which results in less collection on civilian aspects of the operating environment.

## Distinction and the role of intelligence

The foundational IHL principle of distinction, as reflected in Article 48 of AP I, requires all parties to a conflict to "distinguish between the civilian population and combatants and between civilian objects and military objectives".<sup>43</sup> Distinction allows only combatants and military objectives to be targeted, while protected civilians and civilian objects may never be targeted. However, civilians may be injured or killed and objects damaged or destroyed as collateral damage incidental to the engagement of a valid target, pending compliance with other IHL restrictions (such as proportionality).<sup>44</sup> This principle is part of customary

41 Deployable Training Division, Joint Staff J7, *Commander's Critical Information Requirements*, 4th ed., January 2020, available at: [www.jcs.mil/Portals/36/Documents/Doctrine/fp/ccir\\_fp4th\\_ed.pdf?ver=2020-01-13-083331-097](http://www.jcs.mil/Portals/36/Documents/Doctrine/fp/ccir_fp4th_ed.pdf?ver=2020-01-13-083331-097).

42 *Ibid.*

43 Protocol Additional (I) to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts, 1125 UNTS 3, 8 June 1977 (entered into force 7 December 1978) (AP I), Art. 48, "Basic Rule".

44 *Ibid.*, Art. 51, "Protection of the Civilian Population", para. 2, and Art. 52, "General Protection of Civilian Objects", para. 1.

international law and binds all States.<sup>45</sup> In practice, it requires identification of combatants,<sup>46</sup> civilians, military objectives<sup>47</sup> and civilian objects – and to identify combatants and military objectives correctly, intelligence analysts must collect, analyze and provide intelligence information that will enable decision-makers to determine whether they are reasonably confident that a proposed target is a military objective.

However, the role of intelligence and the question of how to assess it as a matter of complying with the principle of distinction are frequently overlooked. Intelligence analysts review best practices of analytical tradecraft and provide confidence-level assessments for their work. Commanders and decision-makers use key legal phrases such as “reasonably certain” to indicate that they have made a legal identification of a military objective based on the information available at the time,<sup>48</sup> but there is a general lack of discussion between the two on how intelligence analysis leads to a reasonably certain identification decision, and as mentioned previously, operations and intelligence do not apply the same standards for certainty terminology.<sup>49</sup> This may lead to misunderstandings between the two and a lack of additional steps that could have added clarity to an uncertain identification.

The challenge of target identification can vary depending on the operational environment, the adversary, and the collection assets available. Some may argue that future conflict is likely to consist of large-scale combat operations against a near-peer adversary and that much of the confusion in identification will no longer be an issue as State militaries will be uniformed and easily identifiable. This overlooks the complexity of identification in urban areas, dual-use infrastructure and other objects, and the real possibility of members of the civilian population directly participating in or supporting<sup>50</sup> the war effort in a manner that may make them targetable under IHL. Military objectives are “objects which by their nature, location, purpose, or use make an effective contribution to military action and whose total or partial destruction, capture or

45 William H. Boothby (ed.), *New Technologies and the Law of War and Peace*, Cambridge University Press, Cambridge, 2019, p. 46.

46 There are differences in the terminology surrounding the distinction between States that are party to AP I and those that are not. For example, the United States sometimes uses the term “belligerent” to describe persons who take part in the fighting, not to refer to those who have the legal right to do so. See DoD, *Department of Defense Law of War Manual*, Office of General Counsel, July 2023 (DoD Manual), § 4.3.2.3. Additionally, there are differences in opinion on which members of an organized armed group may be targeted. See Michael N. Schmitt, “The Interpretive Guidance on the Notion of Direct Participation in Hostilities: A Critical Analysis”, *Harvard National Security Journal*, Vol. 1, No. 5, 2010 pp. 21–24. For purposes of the argument of this article, the value of intelligence in distinguishing valid military objectives, and the importance of understanding intelligence in making targeting decisions, is the same no matter the legal variances in the underlying definitions of combatants.

47 The United States includes people within the definition of military objective.

48 “Read U.S. Central Command’s Investigation into Botched Aug. 29, 2021 Kabul Drone Strike”, *New York Times*, 6 January 2023, (NYT Investigation, AR 15-6) available at: [www.nytimes.com/interactive/2023/01/06/us/kabul-strike-investigation-ar15-6.html](https://www.nytimes.com/interactive/2023/01/06/us/kabul-strike-investigation-ar15-6.html); see also M. N. Schmitt and M. Strauss, above note 1, p. 160.

49 DoD, above note 34, p. 15, Action 5.e.

50 The US interpretation includes “war-supporting” and “war-sustaining” objects as military objectives. DoD Manual, above note 46, § 5.6.6.2.

neutralization, in the circumstances ruling at the time, offers a definite military advantage”.<sup>51</sup> “Location” and “purpose”, the latter defined as intended use or possible use in the future,<sup>52</sup> provide the possibility for a large number of previously civilian objects to be targetable as military objectives. For example, during the NATO bombing campaign against the Federal Republic of Yugoslavia, NATO identified a railroad bridge that was part of an integrated communication supply network in Serbia as a legitimate military objective. However, at the time of engagement a civilian passenger train was attempting to cross it, which was only identified after weapons release.<sup>53</sup> Intelligence is crucial to understanding the operational environment, including not just military objectives and their effects on enemy capabilities but also the civilian population and civilian networks.

In determining whether a decision-maker has made an identification targeting decision in compliance with IHL, the DoD *Law of War Manual* (DoD Manual) uses a “good faith” standard. The standard appears subjective on its face, but the language explaining the standard notes that “the law of war requires commanders and other decision-makers to exercise professional judgment in making any assessment that a person or object is a military objective, and what is reasonable in making that assessment depends on the circumstances”.<sup>54</sup> One interpretation is that the DoD Manual requires decision-makers to make choices that are both reasonable and in good faith,<sup>55</sup> but others have argued that a possible interpretation is that the matter is completely subjective.<sup>56</sup> The 2004 edition of the UK *Manual of the Law of Armed Conflict* (UK Manual), when describing the obligation of the attacker to distinguish between civilian objects and military targets, states that

[t]his obligation is dependent on the quality of the information available to the commander at the time he makes decisions. If he makes reasonable efforts to gather intelligence, reviews the intelligence available to him and concludes in good faith that he is attacking a legitimate military target, he does not automatically violate the principle of distinction if the target turns out to be of a different and civilian nature.<sup>57</sup>

51 AP I, Art. 52(2).

52 See e.g. DoD Manual, above note 46, § 5.6.6.1; Australian Defence Force, *Law of Armed Conflict*, Australian Defence Doctrine Publication 06.4, 2006, § 5.29 (“Purpose means the future intended use of an object while ‘use’ means its present function”); UK Manual, above note 9, § 5.4.4 (“‘Purpose’ means the future intended use of an object while ‘use’ means its present function”).

53 NATO Bombing Campaign Final Report, above note 10, paras 58–62. Note that the passenger train was actually hit twice, as the pilot tried to re-engage to hit the bridge and caused additional collateral damage to the train.

54 DoD Manual, above note 46, § 5.4.3.2.

55 Loren Voss, “The Limited Impact of Changes to the Defense Department’s Law of War Manual”, *Lawfare*, 29 September 2023, available at: [www.lawfaremedia.org/article/the-limited-impact-of-changes-to-the-defense-department-s-law-of-war-manual](http://www.lawfaremedia.org/article/the-limited-impact-of-changes-to-the-defense-department-s-law-of-war-manual).

56 Geoffrey S. Corn, “2023 DoD Manual Revision – What’s in a Presumption?”, *Articles of War*, 3 August 2023, available at: <https://lieber.westpoint.edu/whats-in-a-presumption/>.

57 UK Manual, above note 9, § 2.5.3.

How does one use intelligence to properly identify targets? Good intelligence will tell you not just what something is, but how it fits into the wider operational environment, where it is located in time and space, and sometimes even why it is doing what it is doing or what it is going to do. Good intelligence not only distinguishes between an enemy ballistic missile launcher and a civilian oil rig, but provides vital information on the crucial components to target, the exact location of the launcher and if it is expected to move again, how the launcher gets instructions and from whom, what the enemy plans to target with its ballistic missiles, and if there are any civilian objects or persons in the vicinity.

The target development process as used by the United States and NATO includes three stages: basic, intermediate and advanced. Each stage has its own minimum requirements. Basic target development begins the “process of identifying, locating, describing, and functionally characterizing” and databasing the target details.<sup>58</sup> Intermediate target development includes the minimum pieces of intelligence needed to validate the target, such as target significance, target description, characterization, expectation, elements and source documentation.<sup>59</sup> For example, for a surface-to-air missile system, the facility would consist of the main parts of the system, which could include radars, missile launchers and some form of command and control. The critical elements would be identified, along with the expectation of how destruction would affect the enemy’s air defences. After target vetting and validation (described in the next paragraph), advanced target development provides the minimum information necessary to engage the target effectively. This includes weaponeering, aimpoint selection and development, and a collateral damage estimate (CDE).<sup>60</sup>

A number of processes are built into the joint targeting cycle to review and refine the intelligence assessments of potential targets and ensure compliance with IHL and rules of engagement (ROE). For example, the US military may<sup>61</sup> use the target vetting process to leverage the expertise of the wider national intelligence community in order to verify the fidelity of the intelligence and analysis used to develop the target.<sup>62</sup> Then, the target validation process determines, among other things, that the proposed target is in compliance with IHL and the ROE.<sup>63</sup> NATO doctrine applies this same validation process.<sup>64</sup> In cases of dynamic targeting, these processes may look very different and the compressed timeline may result not only in a quicker check of the intelligence but also in an inability to integrate more collected intelligence or ask for additional intelligence to be collected.

58 Chairman of the Joint Chiefs of Staff, CJCSI 3370.01B, 6 May 2016, p. D-B-1, available at: [https://irp.fas.org/doddir/dod/cjcsi3370\\_01.pdf](https://irp.fas.org/doddir/dod/cjcsi3370_01.pdf).

59 Chairman of the Joint Chiefs of Staff, CJCSI 2270.01B, 6 May 2016, p. D-B-3; Joint Targeting School, *Joint Targeting School Student Guide*, 1 March 2017, p. 124, available at: [www.jcs.mil/Portals/36/Documents/Doctrine/training/jts/jts\\_studentguide.pdf?ver=2017-12-29-171316-067](http://www.jcs.mil/Portals/36/Documents/Doctrine/training/jts/jts_studentguide.pdf?ver=2017-12-29-171316-067).

60 Joint Targeting School, above note 59, p. 124.

61 This is an optional process.

62 DoD, *Joint Targeting*, Joint Publication 3-60, 31 January 2013, p. II-11.

63 *Ibid.*, p. II-11.

64 NATO, *Allied Joint Doctrine for Joint Targeting*, Allied Joint Publication 3-9, Ed. B, Version 1, November 2021 (AJP 3-9), p. 1-10. But note that target vetting is considered a national responsibility (p. X).

As previously discussed,<sup>65</sup> intelligence analysis is not perfect for a variety of reasons, but while some of these reasons cannot be addressed due to the nature of warfare, others can. The reality of imperfect intelligence requires decision-makers to look with an analytical eye to the provision of intelligence assessments and consider what steps they may take to improve confidence in assessments. IHL, through Article 57(2)(a)(i) of AP I, requires those who plan or decide upon an attack to “do everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects and are not subject to special protection but are military objectives”, but it does not specify what those feasible actions may be. The customary status of this general concept is recognized in Rule 16 of the International Committee of the Red Cross (ICRC) Customary Law Study,<sup>66</sup> and although not a party to AP I, the United States accepts a customary international law obligation to take feasible precautions to verify that objects of attack are military objectives.<sup>67</sup>

A recent example of imperfect intelligence leading to tragic results was the 29 August 2021 US military targeting of an aid worker and his vehicle in Afghanistan. The aid worker was mistakenly identified as an ISIS-K member about to launch a suicide attack. The air strike resulted in the death of three civilian adults and seven children. The target engagement authority for this strike was told that the strike cell was “beyond reasonably certain” that the vehicle matched the threat they were tracking based on all of the intelligence, vehicle description, routes and point of origin.<sup>68</sup> However, a later statement by the US Air Force inspector-general concluded that “the interpretation or the correlation of the intelligence to what was being perceived at the time, in real time, was inaccurate”, and that “confirmation bias” in addition to other factors led to the ten civilian casualties.<sup>69</sup>

Good practices for verifying identification for means of IHL compliance can include:

- collecting additional intelligence, and particularly intelligence of a different discipline that what was previously collected;
- reviewing the confidence level and reassessing the accuracy of the intelligence supporting the assessment that the proposed target is a military objective;<sup>70</sup>
- determining other possible identifications that would fit with the current intelligence collected and then requesting, or collecting as needed, intelligence that will support or refute those other possible identifications;
- comparing the proposed target against no-strike lists and/or other intelligence collected on civilian objects; and

65 See the section above on “Analytic Tradecraft and Risk of Cognitive Bias”.

66 See Jean-Marie Henckaerts and Louise Doswald-Beck (eds), *Customary International Humanitarian Law*, Vol. 1: *Rules*, Cambridge University Press, Cambridge, 2005 (ICRC Customary Law Study), Rule 16, available at: <https://ihl-databases.icrc.org/en/customary-ihl/rules> (“Each party to the conflict must do everything feasible to verify that targets are military objectives”).

67 DoD Manual, above note 46, § 5.5.3.

68 NYT Investigation, AR 15-6, above note 48.

69 DoD, above note 31.

70 See also DoD Manual, above note 46, § 5.5.3.



- reviewing previously approved targets at reasonable intervals as well as when warranted in light of fresh information and changing circumstances, e.g. to ascertain whether enemy forces continue to use the object for military purposes or whether the object's destruction or neutralization continues to offer a definite military advantage.<sup>71</sup>

US and NATO doctrine both include the concept of no-strike entities that make up a no-strike list. No-strike lists contain entities upon which kinetic and non-kinetic operations are prohibited due to international law, ROE, agreements, or the risk of damaging relations with coalition partners or local populations.<sup>72</sup> Such entities can include medical, educational, diplomatic, cultural, religious and historical sites, and anything not a military objective;<sup>73</sup> common examples include hospitals, religious sites, cultural sites, schools and embassies of non-combatant countries. Although now a doctrinal and detailed process, the concept of creating a no-strike list has been used in previous conflicts. For example, during Operation Desert Storm in 1991, the United States used intelligence resources to identify cultural property and prepare a no-strike list.<sup>74</sup>

In order to identify and then provide the details necessary to avoid targeting of, or unintentional damage to, no-strike entities, intelligence is needed to provide details on the entity's purpose and the same location accuracy as is required for lawful military targets.<sup>75</sup> When this is not provided, entities may be accidentally targeted, as evidenced by the infamous 1999 bombing of the Chinese embassy in Yugoslavia, which the NATO Bombing Campaign Final Report found was due in part to the fact that none of the military or intelligence databases used to verify target information had the correct location of the embassy.<sup>76</sup> The intelligence needed to create comprehensive no-strike lists is extensive and requires prioritization, either by target lists or other command priorities.

The last good practice listed above, the reviewing of previously approved targets, merits additional attention. In many of today's conflicts and in future large-scale combat operations, military objectives will be identified through intelligence gathered earlier, leading to latency and changes to the facts on the ground. Reliance on old assessments and confidence levels may result in unanticipated but preventable engagement of targets that are no longer valid military objectives or have unknown additional civilian presence or purpose.<sup>77</sup>

71 See also *ibid.*, § 5.5.3.

72 Chairman of the Joint Chiefs of Staff, CJCSI 3160.01, 13 February 2009, p. C-1; AJP 3-9, above note 64, para. 1.3.16.

73 CJCSI 3160.01, above note 72, p. C-1.

74 Strobe Talbott, Letter of Submittal, 12 May 1998, included in the Message from the President Transmitting the 1954 Hague Cultural Property Convention, 6 January 1999, p. VIII, available at: [https://ogc.osd.mil/Portals/99/message\\_from\\_the\\_potus\\_transmitting\\_the\\_hague\\_convention\\_for\\_the\\_protection\\_of\\_cultural\\_property.pdf](https://ogc.osd.mil/Portals/99/message_from_the_potus_transmitting_the_hague_convention_for_the_protection_of_cultural_property.pdf).

75 CJCSI 3160.01, above note 72, p. C-3.

76 NATO Bombing Campaign Final Report, above note 10, para. 81. Refer to paras 81–82 for a discussion the inaccurate locations of both the target and the no-strike entity (the Chinese Embassy).

77 UK Manual, above note 9, § 5.32.4. For examples that appear to be targeting based on outdated intelligence, see Azmat Khan and Anand Gopal, "The Uncounted", *New York Times*, 16 November

## Proportionality analysis's reliance on intelligence analysis

The rule of proportionality in military operations requires all combatants not to pursue an attack in which the expected injury and death to civilians and damage to civilian objects would be excessive compared to the concrete and direct military advantage expected to be achieved.<sup>78</sup> For example, if attacking an army command and control node with an air strike is likely to cause physical damage to the two civilian businesses in the building next door, the commander must determine that the expected concrete and direct military advantage of degrading or destroying the command and control node will have on the enemy's army is not excessive in relation to the harm and possible death/injury caused to civilians in the nearby business buildings.

Included in proportionality analysis are not just the direct effects from the munition but also the indirect harms foreseeably resulting from the attack.<sup>79</sup> While there is some disagreement among experts as to which indirect effects must be considered, there is generally a consensus on including indirect foreseeable harms, including as described in the Bothe, Partsch and Solf Commentary to AP I.<sup>80</sup> The DoD Manual limits this to foreseeable "immediate or direct harms", providing as an example that if a power plant was destroyed and this would be expected to result in the deaths of civilians at a hospital connected to the power plant, this must be considered as part of the proportionality analysis.<sup>81</sup> The UK Manual refers to a planned precision bombing attack on a military fuel storage depot, with a foreseeable risk that burning fuel will flow into a civilian residential area and cause injury to the civilian population. The UK Manual counts this indirect effect as part of the expected collateral damage.<sup>82</sup>

Importantly, this requirement includes not just the foreseeable harm that is identified in advance but all reasonably foreseeable harm, meaning that even if one did not know of the foreseeable harm, but should have, then it should have been included in the proportionality analysis.<sup>83</sup> As a result, properly identifying foreseeable harm is crucial to IHL compliance. Identifying such harm requires intelligence analysis not just to identify that objects are civilian objects but also to

2017, available at: [www.nytimes.com/interactive/2017/11/16/magazine/unaccounted-civilian-casualties-iraq-airstrikes.html](http://www.nytimes.com/interactive/2017/11/16/magazine/unaccounted-civilian-casualties-iraq-airstrikes.html).

78 AP I, Arts 51, 57(2)(iii); ICRC Customary Law Study, Vol. 1, above note 66, Rule 15; DoD Manual, above note 46, § 5.12.

79 DoD Manual, above note 46, § 5.12.1.3.

80 Michael Bothe, Karl Josef Partsch and Waldemar A. Solf, *New Rules for Victims of Armed Conflicts: Commentary on the Two 1977 Protocols Additional to the Geneva Conventions of 1949*, 2nd ed., Martinus Nijhoff, Leiden, p. 351;

81 DoD Manual, above note 46, § 5.12.1.3.

82 UK Manual, above note 9, § 5.33.4.

83 See Isabel Robinson and Ellen Nohle, "Proportionality and Precautions in Attack: The Reverberating Effects of Using Explosive Weapons in Populated Areas", *International Review of the Red Cross*, Vol. 98, No. 901, 2016, p. 107, noting the "growing consensus that parties to an armed conflict are legally obliged to take into account the reasonably foreseeable reverberating effects of an attack". Note that the UK Manual, above note 9, § 5.33.4, and the DoD Manual, above note 46, § 5.12.1.3, do not require that the foreseeable effect was actually foreseen.

identify and understand civilian networks and how degrading or destroying one node will affect the rest of the network.

One way to determine the expected injury and death to civilians and damage to civilian objects is through the US collateral damage estimation methodology (CDEM), also adopted by NATO, which provides a methodical, data-driven approach to determining what direct collateral damage will likely occur in a specific instance. The process has five CDE levels, each progressively refining the analysis based on several factors, including target characteristics, weapon type and effect, delivery parameters, the physical environment around the target, and available intelligence.<sup>84</sup> Current technology also allows the user to change the weaponeering (type of munition, fuse, angle of attack, etc.) in order to see the effects on mission success (probability of damage or kill) and on collateral damage, thereby allowing for analysis on options to reduce collateral damage without hindering mission accomplishment. Allowing such modifications to weapons choice and employment to occur in quick succession while still achieving the desired effects on the target will lead to more protective results for civilians and civilian objects.

In most cases, this formal analysis is conducted by intelligence analysts certified in the CDEM.<sup>85</sup> Intelligence is also crucial for the collateral damage analysis in that intelligence data must be provided in order to determine probable collateral damage. Civilian objects in the vicinity of the target must be properly identified in order to be calculated into the analysis. For example, suppose a building near a target is not properly identified as a religious site, house, etc., and is instead misidentified as part of the military compound. In that case, the CDE will not include it. Furthermore, it may be impossible to determine the exact number of civilians in a civilian structure at a given time. Intelligence's answer to this is to create and use population density tables; these tables provide population density estimates for specific human activities under normal patterns of life, frequently integrating open-source information into the analysis.<sup>86</sup> Ideally, other forms of intelligence are integrated into the analysis instead of solely relying on population density tables.<sup>87</sup> Additionally, there are inherent limitations to the CDEM; one major limitation is that it is used to consider direct effects in the area around the target only and does not include indirect effects outside of that area.<sup>88</sup> The importance of understanding the civilian aspects of the operating environment is discussed in additional detail in the next section.

84 Joint Targeting School, Joint Staff J7, "Collateral Damage Estimation Qualification Course Syllabus", 2021, available at: [www.jcs.mil/Portals/36/Documents/Doctrine/training/jts/col\\_damage\\_course\\_syllabus2021.pdf?ver=M\\_SuktF05Na4Jl-rBcb6mg%3d%3d](http://www.jcs.mil/Portals/36/Documents/Doctrine/training/jts/col_damage_course_syllabus2021.pdf?ver=M_SuktF05Na4Jl-rBcb6mg%3d%3d).

85 CJCSI 3160.01, above note 72, p. D-A-1.

86 Robert N. Stewart *et al.*, "Uncertainty Quantification Techniques for Population Density Estimates Derived from Sparse Open Source Data", *Proceedings of SPIE*, Vol. 8747, July 2013, available at: [www.ornl.gov/publication/uncertainty-quantification-techniques-population-density-estimates-derived-sparse-open](http://www.ornl.gov/publication/uncertainty-quantification-techniques-population-density-estimates-derived-sparse-open).

87 ICRC, *Explosive Weapons with Wide Area Effects: A Deadly Choice in Populated Areas*, Geneva, January 2022, p. 129.

88 *Ibid.*, p. 129.

Good practices for identifying foreseeable but indirect harm include:

- using intelligence, including OSINT, to map out civilian critical infrastructure and the roles of key nodes;
- ensuring that intelligence is available on the civilian roles of dual-use objects and the impact of their degradation or loss on civilian life; and
- integrating intelligence on the effects of previous attacks into analysis of the effects of possible future attacks, to ensure that compounding effects are understood.

## Precautions in attack

Even in situations in which an attack is against a lawful military object and meets the proportionality rule, IHL requires the attacker to take feasible precautions in planning and conducting the attack to reduce the risk to civilians and other protected persons and objects. The relevant part of Article 57 of AP I reads as follows:

2. With respect to attacks, the following precautions shall be taken:

(a) those who plan or decide upon an attack shall:

(i) do everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects and are not subject to special protection but are military objectives within the meaning of paragraph 2 of Article 52 and that it is not prohibited by the provisions of this Protocol to attack them;

(ii) take all feasible precautions in the choice of means and methods of attack with a view to avoiding, and in any event to minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects;

(iii) refrain from deciding to launch any attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated;

(b) an attack shall be cancelled or suspended if it becomes apparent that the objective is not a military one or is subject to special protection or that the attack may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated;

(c) effective advance warning shall be given of attacks which may affect the civilian population, unless circumstances do not permit.

3. When a choice is possible between several military objectives for obtaining a similar military advantage, the objective to be selected shall be that the attack on

which may be expected to cause the least danger to civilian lives and to civilian objects.

4. In the conduct of military operations at sea or in the air, each Party to the conflict shall, in conformity with its rights and duties under the rules of international law applicable in armed conflict, take all reasonable precautions to avoid losses of civilian lives and damage to civilian objects.

The verification of the objective as a military objective is addressed in the section on distinction above, and the requirement of only proportional attacks is addressed in the proportionality section above.

Means and methods have been analyzed briefly in the section on proportionality when discussing weaponizing and the technological ability to repeatedly modify the munition and engagement parameters and see the probability of desired effects on the target and estimated collateral effects. This cannot be overstated as a way to reduce collateral effects without requiring a reduction in military effectiveness, but feasible precautions in means and methods are larger than this single approach. Means and methods also include considering the timing of the attack or even alternative methods that would have the same desired effect, such as cyber or electronic warfare methods. In order to understand which different means and methods would still be effective but also avoid or minimize incidental injury or death to civilians and damage to civilian objects, extensive intelligence is needed to understand the civilian environment and the effects desired on the target.

For example, choosing a different time to attack the target is frequently suggested as a way to avoid or reduce civilian harm. However, for static objects like buildings, this still requires gaining knowledge of the civilians who work in the building and their schedules, as well as any civilians that may be nearby and their schedules. Population density tables are used for averages when specific intelligence cannot be gathered; for moving targets, this requires a keen understanding of the operating environment, including areas with a high density of civilian populations and objects and the likelihood of civilian presence based on time of day. In some cases, near-real-time video from intelligence, surveillance and reconnaissance assets can provide some of that intelligence, identifying civilian presence at a snapshot in time. However, this can miss civilians outside of the current field of view and civilians hidden from view due to overhangs, walls and buildings, as evidenced in the Kabul air strike example discussed above.

Effective advanced warning is also customary international law and is stated as such in Rule 20 of the ICRC Customary Law Study: “Each party to the conflict must give effective advance warning of attacks which may affect the civilian population, unless circumstances do not permit.”<sup>89</sup> “Effective” in this instance means effective at reaching the intended civilians but not requiring an effective response from the civilians to reduce harm to themselves.<sup>90</sup> To effectively reach the intended civilians,

89 ICRC Customary Law Study, Vol. 1, above note 66, Rule 20.

90 W. H. Boothby, above note 7, p. 127.

intelligence is key in determining what the message should be, how it is written, and how it is delivered. For example, intelligence on the language(s) spoken, the literacy level and the means of communication (pamphlets, phone call/text messages, or even social media) used among the civilian population will all increase the chances of effectively reaching the intended audience.

In situations where the military wants the warning to be effective in the sense that potentially affected civilians can take actions to reduce risk of harm to themselves, additional steps based on intelligence of the operational environment can assist. For example, if a warning is given that a city will soon be the object of attack, intelligence can verify that the civilian population has a way to evacuate the city, and the warning military force can consider providing additional information to civilians to assist them in finding a secure way to safety.<sup>91</sup>

Lastly, Article 57 of AP I provides that “[i]n the conduct of military operations, constant care shall be taken to spare the civilian population, civilians and civilian objects”. Article 27 of the 1907 Hague Regulations states that “[i]n sieges and bombardments all necessary steps should be taken to spare as far as possible” a list of specific objects including hospitals, religious sites and charities. While there is not much debate that the requirement to take constant care to spare civilians and civilian objects is a customary international law principle,<sup>92</sup> the interpretation of the scope of the requirement varies. Although it is debated if this is a general requirement in itself or simply a chapeau to the more detailed requirements in paragraph 2 of Article 57 dealing with attacks,<sup>93</sup> the 1987 Commentary to AP I recognizes it as a “general principle”,<sup>94</sup> and the United States recognizes a customary international law obligation to take feasible precautions to reduce the risk of harm to the civilian population and other protected persons and objects.<sup>95</sup>

To fully understand the impact of military operations, intelligence must not only indicate the role of the target in the enemy’s operations but also provide a deep understanding of the civilian aspects of the operating environment that will foreseeably be impacted by the target’s engagement. Depending on the type of operation and the type of conflict, the level of intelligence required to understand the civilian aspects of the operating environment will vary. For example, the targeting of high-value individuals in counterterrorism operations requires detailed intelligence on the high-value individual for identification purposes (more so when outside an area of active combat), but less information on the larger civilian environment. More conventional military operations require a deeper and wider understanding of the civilian environment because of the larger impact that operations will have on it.<sup>96</sup> For example, the RAND Corporation

91 See RAND Corporation, above note 37, p. 44, for examples of how, prior to the assault on Raqqa, US and coalition forces provided advance warning to the civilian population and guidance for identifying themselves as non-combatants seeking to escape the city, and instructed civilians on safe passage.

92 W. H. Boothby, above note 7, p. 72.

93 M. N. Schmitt and M. Strauss, above note 1, p. 179.

94 AP I, para. 2191.

95 DoD Manual, above note 46, § 5.2.3.

96 RAND Corporation, above note 37, p. 74.

found that US operations in Raqqa, prior to the 2017 operation to retake the city, focused on targeting senior terrorist leaders and “not on building an understanding of the civilian environment”.<sup>97</sup> As a result, the RAND report concluded that focusing intelligence only on “defeating the enemy” resulted in “insufficient emphasis on understanding the human terrain and finding ways to mitigate civilian harm risks”, which was needed for the effort to forcibly retake the city.<sup>98</sup>

Through its 2022 *Civilian Harm Mitigation and Response Action Plan*, the DoD recognized the importance of increasing understanding of the civilian environment as part of both IHL compliance and as a good practice that supports policies on civilian harm mitigation, including “improv[ing] the commander’s ability to distinguish non-adversarial aspects of the operational environment”.<sup>99</sup> The civilian environment, as characterized by the DoD, consists of the “civilian population and the personnel, organizations, resources, infrastructure, essential services, and systems on which civilian life depends”.<sup>100</sup> NATO previously developed a similar concept, the human environment, which requires

developing a comprehensive picture of the operating environment, including both the physical aspects of the human environment (e.g. population welfare, demographics, etc.), and the psychological aspects related to population perceptions (e.g. their attitudes towards respective factions, their support for the mission.)<sup>101</sup>

Good practices for providing constant care to spare the civilian population from the effects of military operations include:

- collecting intelligence on the civilian environment so that the full effects of military operations can be understood in advance and mitigated as feasible;
- mapping the civilian networks on which civilian life depends (water, electricity, hospitals) and tracking to the level feasible the effects of military operations on those networks;
- using intelligence on the civilian population, infrastructure, future operations and the operational environment generally to model and predict internally displaced persons and refugee flows; and
- developing humanitarian notification and deconfliction systems.

## Conclusion

Without intelligence, decision-makers would not be able to effectively target the enemy and have any hope of achieving ultimate victory. IHL, on the other hand,

<sup>97</sup> *Ibid.*, p. 74.

<sup>98</sup> *Ibid.*, p. 93.

<sup>99</sup> DoD, above note 34, p. 9.

<sup>100</sup> *Ibid.*, p. 9.

<sup>101</sup> NATO, *Protection of Civilians: ACO Handbook*, 11 March 2021, available at: <https://shape.nato.int/resources/3/website/ACO-Protection-of-Civilians-Handbook.pdf>.

is a balance between military necessity and humanity, requiring even more intelligence in order to comply with specific provisions of the law and the general spirit behind it. As a result, intelligence is crucial to military success and IHL compliance, and decision-makers rely heavily upon it to make reasonable decisions on what to target and how to do so, and whether that specific military action is compliant with IHL. Decision-makers have an obligation to understand intelligence, and this article has elucidated the key roles of intelligence in specific targeting decisions, with the goal of enabling better compliance with IHL and better outcomes for protected persons and objects.