

Minimizing civilian harm in populated areas: Lessons from examining ISAF and AMISOM policies

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Abstract

Both the African Union Mission in Somalia (AMISOM) and the International Security Assistance Force (ISAF) – the North Atlantic Treaty Organization’s security assistance mission to Afghanistan – have recognized the importance of reducing civilian harm, and adopted policies and practices that restrict the use of certain weapons in populated areas. ISAF commanders issued a number of tactical directives that restricted the use of certain air-delivered weapons, and AMISOM developed an indirect fire policy limiting the use of artillery and other indirect fire munitions in populated areas. This article examines both ISAF and AMISOM policies and practices to reduce civilian harm in populated areas and explores how these policies strengthened adherence to international humanitarian law and illustrated new ways in which armed actors can take feasible precautions and prioritize civilian protection.

Keywords: ISAF, AMISOM, civilian harm, civilian casualty tracking, indirect fire.

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Introduction

Armed conflict is often fought in populated areas, where civilians are at heightened risk of death, injury and displacement. Such conflict zones pose operational challenges for armed actors, necessitating a shift in policies, training and tactics – both prior to and during conflict – in order to properly prevent excessive damage to civilians and civilian objects. Harm in populated areas can be caused by intentional targeting of civilians or civilian objects, or it can be incidental to an attack on a legitimate military objective. The danger is compounded when armed actors employ explosive weapons with wide-area effects, such as airdropped bombs, rockets, artillery and mortars, typically intended for open battlefields. Illustrative of this issue is empirical evidence from Afghanistan, Iraq, Libya, Somalia, Syria, Ukraine and Yemen, which reflects widespread death, injury, displacement, and damage to the essential infrastructure that civilians depend upon.¹ This article focuses on civilian harm in populated areas such as Afghanistan and Somalia, and efforts at mitigation.

Recent practices and policies of multinational forces have shown that, when civilian protection is prioritized as a key strategy, actors can take precautions to limit the impact of war and reduce civilian harm in populated areas. In Afghanistan, as the use of airpower was increasing, so was the civilian death toll. This forced NATO's International Security Assistance Force (ISAF) to issue a number of tactical directives² that restricted the use of certain air-delivered weapons in populated areas, even when such attacks could be lawful, and to train soldiers on civilian casualty avoidance and mitigation. The African Union Mission in Somalia (AMISOM) developed an indirect fire policy limiting the use of artillery and other indirect fire munitions in populated areas after concerns were raised that such weapons used in the city of Mogadishu caused civilian harm. Through the adoption of these policies, protecting civilians during operations and imposing limits on the use of certain weapons became a strategic priority and not just a concern about adhering to international humanitarian law (IHL). The results were seen in Afghanistan and Somalia, as both ISAF and AMISOM reduced the amount of civilian harm caused.³ This article examines those policies and identifies additional measures that can be considered by parties to a conflict to minimize civilian harm in populated areas.

1 Action on Armed Violence, *Explosive States: Monitoring Explosive Violence in 2014*, 2015, available at: <https://aoav.org.uk/wp-content/uploads/2015/06/AOAV-Explosive-States-monitoring-explosive-violence-in-2014.pdf> (all internet references were accessed in December 2016). For country and thematic reports relating to the use of explosive weapons in populated areas, see the International Network on Explosive Weapons website, available at: www.inew.org/learn-more-about-inew#inew-member-material.

2 Tactical directives were used to provide guidance and intent for the employment of force in support of ISAF operations.

3 In 2007, the United Nations Assistance Mission in Afghanistan (UNAMA) documented 629 deaths attributed to pro-government forces; in 2014, that number was 162. See discussion on UNAMA reports at notes 76–77, below.

A brief review of the legal regime

IHL, or the law of armed conflict, prescribes important rules for the protection of civilians. A commander must assess, based on information available to him/her before launching an attack, whether the means and methods used are indiscriminate or disproportionate, and whether all feasible precautions have been taken to minimize civilian harm. In 2011, the International Committee of the Red Cross (ICRC) stated that the use of explosive weapons with a wide impact area should be avoided in densely populated areas, due to the significant likelihood of indiscriminate effects.⁴ The ICRC has broken “wide impact area” into three categories: due to large destructive radius of the munitions (e.g. large bombs or missiles or improvised explosive devices (IEDs)); due to the lack of accuracy of the delivery system (such as unguided indirect fire weapons, including artillery and mortars); and where a weapon system is designed to deliver munitions over a wide area (multi-launch rocket systems or cluster munitions).⁵

IHL does not *per se* prohibit the use of explosive weapons in populated areas, but a commander must consider legal obligations in assessing the means or methods of warfare when deployed in areas with a “concentration of civilians”. This includes a “city, town, village or other areas containing a similar concentration of civilian or civilian objects”⁶, and is synonymous with the terms “populated areas” or “densely populated areas.” This section provides a brief overview of the legal regime as applied to the use of weapons in populated areas.

Prohibition of indiscriminate attacks

IHL prohibits indiscriminate attacks that are of a nature to strike military objectives and civilians or civilian objects without distinction. Article 51(4) of Additional Protocol I (AP I) specifies three types of indiscriminate attacks. First, attacks which are not directed at a specific military objective; this category depends not on the weapon used, but on the manner in which it is used. Second, attacks which employ a method or means of warfare which cannot be directed against a specific military objective; this prohibits the use of weapons that strike blindly, as well as weapons that are not precise enough to strike a specific military objective, due to the circumstances and manner in which they are used. Third, attacks which employ a method or means of warfare the effects of which cannot be limited as required by law; biological agents, for example.⁷ In addition, Article 51

4 ICRC, *International Humanitarian Law and the Challenges of Contemporary Armed Conflicts*, report submitted to the 31st International Conference of the Red Cross and Red Crescent, Geneva, Switzerland, 28 November–1 December 2011 (2011 Challenges Report).

5 *Ibid.*

6 Protocol Additional (I) to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts, 8 June 1977 (AP I); 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 13.

7 AP I, Art. 51.

(5)(a) of AP I prohibits area bombardment as a specific form of indiscriminate attack. Area bombardment is an attack which treats as a single military objective a number of clearly separated and distinct military objectives located in a populated area.

It should be noted while the use of weapons which are by their nature indiscriminate is prohibited in all circumstances, the prohibition against indiscriminate attacks extends to attacks that employ weapons which, in the circumstances ruling at the time and manner of their use, cannot be directed at a specific military objective or whose effects cannot be limited as required by IHL.⁸ Put another way, use of particular weapons that violate the prohibition against indiscriminate attacks must be considered on a case-by-case basis, taking into account the type of weapon, the location of the attack, the military advantage expected to be gained from the attack, and the expected civilian casualties and damage to civilian objects resulting from the attack. The ICRC has noted that in the context of explosive weapons, a “circumstance that could make the use of a certain weapon indiscriminate is certainly its use in a densely populated area”.⁹

Proportionality and precautionary measures to minimize civilian harm

The rule of proportionality prohibits attacks which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.¹⁰ An important point to emphasize is that the rule is not limited to death and injuries, but that damage to civilian objects should also not be excessive in relation to the military advantage anticipated.

The rule requires that, in the context of each attack, a prior assessment must be made as to the exposure to, and level of, injury or damage that civilians or infrastructure may suffer as a result of the attack, and to then weigh this against the military gain anticipated. This includes consideration of the target itself, its vicinity, and the type of weaponry used in the attack.¹¹ Thus, whether an attack is legal depends in part on whether the principle of proportionality was respected when the operation targeting the military objective was carried out.

Some experts note the growing recognition that “foreseeable” effects should also be factored into the proportionality assessment, including, notably, those from

8 ICRC Customary Law Study, above note 6, Rule 71; Laurent Gisel, *The Use of Explosive Weapons in Densely Populated Areas and the Prohibition of Indiscriminate Attacks*, paper presented at the International Institute for Humanitarian Law’s 37th Roundtable on Current Issues in International Humanitarian Law, “Conduct of Hostilities: The Practice, the Law and the Future”, San Remo, 4–6 September 2014, available at: www.iihl.org/Media/Default/Round%20Tables/XXXVII%20Round%20Table/Speakers%20contributions/Gisel_REV.pdf.

9 2011 Challenges Report, above note 4, p. 41.

10 AP I, Art. 57(2)(a)(iii); ICRC Customary Law Study, above note 6, Rule 14.

11 Camilla Wasznik, *Protection of Civilians Under International Humanitarian Law: Trends and Challenges*, Norwegian Peacebuilding Resource Center, August 2011.

unexploded ordnance.¹² But there is a lack of consensus on the geographical and temporal scope of the proportionality assessment and of the attack itself.¹³ Rather, proportionality tends to be evaluated on an operational level and is fact-specific. For instance, once the collateral damage expected from an attack cannot be minimized further through the choice of a different weapon or a change in the angle or time of attack, “the proportionality principle is considered fulfilled and a ‘go’ for the planned attack is likely”.¹⁴

In addition to the rules governing legitimate targets of attack and methods of warfare, and proportionality assessment, the law mandates that parties take certain precautionary measures to protect civilians.¹⁵ The principle of precaution has two aspects: precautions in attack and precautions against the effects of attacks.¹⁶ In the conduct of military operations, “constant care” must be taken to spare the civilian population or civilian objects.¹⁷ Particular precautions required by law include doing everything feasible to verify that targets are military objectives,¹⁸ and taking all feasible precautions in the choice of means and methods of warfare with a view to *avoiding and in any event minimizing* incidental civilian casualties and damage to civilian objects.¹⁹ The principle implies that commanders should choose the less harmful means available at the time of the attack to achieve their military aim.²⁰ It also requires that parties to the conflict cancel or suspend an attack if it becomes apparent that it will cause excessive “collateral damage”.²¹ Thus, precautions may entail such obligations as taking measures to gather all available information to verify the target and the potential incidental effects of an attack.²²

- 12 Timothy McCormack and Paramdeep Mtharu, *Expected Civilian Damage and the Proportionality Equation: International Humanitarian Law and Explosive Remnants of War*, Asia Pacific Centre for Military Law, University of Melbourne Law School, 2006, pp. 12–13. See also the 1996 Amended Protocol II to the Convention on Certain Conventional Weapons, Art. 3(10)(a), which requires that the “long-term effect of mines upon the local civilian population” be taken into account when taking precautions.
- 13 “The main problem with the principle of proportionality is not whether or not it exists but what it means and how it is to be applied.” International Criminal Tribunal for the former Yugoslavia (ICTY), *Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia*, 13 June 2000, para. 48, available at: www.icty.org/en/press/final-report-prosecutor-committee-established-review-nato-bombing-campaign-against-federal.
- 14 Janina Dill, *Applying the Principle of Proportionality in Combat Operations*, Oxford Institute for Ethics, Law and Armed Conflict, December 2010, p. 4.
- 15 See, generally, Geoffrey S. Corn, “War, Law and the Oft Overlooked Value of Process as a Precautionary Measure”, *Pepperdine Law Review*, Vol. 42, No. 3, 2015.
- 16 See AP I, Arts 57 and 58; ICRC Customary Law Study, above note 6, Rules 15–24.
- 17 AP I, Arts 57(1) and (2)(a)(i); ICRC Customary Law Study, above note 6, Rule 15.
- 18 AP I, Art. 57(2)(a)(ii); ICRC Customary Law Study, above note 6, Rule 16.
- 19 AP I, Arts 57(2)(a) and (b); ICRC Customary Law Study, above note 6, Rule 17.
- 20 Michael N. Schmitt, “The Principle of Discrimination in 21st Century Warfare,” *Yale Human Rights and Development Law Journal*, Vol. 2, 1999, p. 170; Harvard University Program on Humanitarian Policy and Conflict Research, *Commentary on HPCR Manual on Air and Missile Warfare*, 2010, Commentary on Rule 32(b), para. 3.
- 21 AP I, Art. 57(2)(b); ICRC Customary Law Study, above note 6, Rule 19.
- 22 ICTY, above note 13, para. 29: “A military commander must set up an effective intelligence gathering system to collect and evaluate information concerning potential targets. The commander must also direct his forces to use available technical means to properly identify targets during operations. Both the commander and the aircrew actually engaged in operations must have some range of discretion to determine which available resources shall be used and how they shall be used.”

Both the attacker and the attacked must take precautions. The party that is the object of attack has an obligation “to the maximum extent feasible” to “endeavor to remove the civilian population, individual civilians and civilian objects under their control from the vicinity of military objectives” and “take the other necessary precautions to protect the civilian population, individual civilians and civilian objects under their control against the dangers arising from military operations”.²³ Armed actors have an obligation to either keep military objects apart from civilians and civilian objects, or if not feasible, to take other measures to protect civilians and civilian infrastructure from the dangers resulting from military operations. Although not specified by law, examples could include establishing warning and evacuation systems for civilians, constructing bomb shelters and marking dangerous areas.²⁴

While some parties to conflict deliberately intermingle with civilian populations, this does not release the party launching an attack from its own obligations to respect the civilian population, including the obligation to take all feasible precautions in attack.²⁵

Both the rules of precautions and proportionality are concerned with incidental effects of an attack on civilians or civilian objects. A number of factors can account for incidental loss: the location of civilians within or in the vicinity of the military objective; the terrain (landslides, floods); the type of weapons and munitions as well as the accuracy of the weapons used; weather conditions; the specific nature of the military objectives concerned (ammunition depots, fuel reservoirs, main roads of military importance within the vicinity of populated areas); and the technical skill of the combatants.²⁶

Regarding the location of the attack, the rule requiring parties to conflict to take all feasible precautions in the choice of means and methods of warfare can also serve to impose restrictions on the location of the attack by requiring, where circumstances permit, that the parties avoid attacking a populated area if the attack is likely to result in heavy civilian casualties.²⁷ The obligation can also impose restrictions on the timing and angle of attack, with a view to limiting incidental damage.²⁸ Precautions in the choice of means and methods of warfare also extend to the choice of weapons and munitions.

An attacking party must also give effective advanced warning unless circumstances do not permit.²⁹ An effective advance warning is one that allows

23 AP I, Arts. 57–58; ICRC Customary Law Study, above note 6, Rules 15–24.

24 Jean-François Quéguiner, “Precautions Under the Law Governing the Conduct of Hostilities”, *International Review of the Red Cross*, Vol. 88, No. 864, 2006, p. 819.

25 The ICTY has categorically rejected reciprocity as a justification for violations of IHL, affirming that “[t]he defining characteristic of modern international humanitarian law is instead the obligation to uphold key tenets of this body of law regardless of the conduct of enemy combatants”. ICTY, *Prosecutor v. Kupreškić*, Case No. IT-95-16-T, Judgment, 14 January 2000, para. 511.

26 Yves Sandoz, Christophe Swinarski and Bruno Zimmermann (eds.), *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949*, ICRC, Geneva, 1987, para. 2212.

27 J.-F. Quéguiner, above note 24, pp. 800–803.

28 *Ibid.*

29 ICRC Customary Law Study, above note 6, Rule 20.

civilians to protect themselves adequately and gives them sufficient time to evacuate or otherwise seek shelter.

Policies and practices to minimize civilian harm

Civilian harm – death, injury and damage to property – can be avoided or minimized through many different methods. Choosing an appropriate weapons system, munitions warhead fuse and delivery system; considering the distance from which a weapon is launched; and the angle and timing of the attack all potentially affect the level of civilian harm inflicted. Despite improvements in technology, a majority of artillery and mortar systems “have inherent inaccuracies”.³⁰ While there are limited military policies, doctrines, tactics and techniques, operational directives and rules of engagement (ROE) applying specific limits to the choice and use of explosive weapons in populated areas,³¹ new guidance and tactics are emerging that aim to minimize civilian harm. These new practices and policies, the US government argues, go beyond what is required by IHL, and when implemented strengthen adherence to the principles of proportionality, precaution and distinction. These practices and policies should be shared with armed actors and adjusted to different theatres and capabilities.

For instance, thorough training of armed actors in the choice of methods and means of warfare, including the use and selection of weapons, is critical to minimizing civilian harm. Policy restrictions on the use of indirect fire weapons in populated areas will also result in avoiding civilian harm. Collateral damage estimation methodologies can be used to assist commanders in foreseeing incidental harm, and can influence variables such as choice of weapon, warhead and munitions fuse. Civilian casualty tracking cells (CCTCs) also allow commanders to systematically assess the impact of operations on civilians. By analyzing the data, commanders will be able to identify particular patterns of harm where the use of certain weapons or tactics results in civilian harm. This in turn will allow the commander to take appropriate corrective measures to reduce civilian harm, such as clarifying targeting guidelines or ROE, improving training and supervision, and employing a weaponeering assessment process.³²

This section examines the practices of ISAF and AMISOM in the deployment of these myriad tools when fighting in populated areas. In both cases, policy changes were driven by the recognition that civilian casualties can lead to the loss of support for the mission, undermine longer-term political objectives and, ultimately, affect mission success.

30 ICRC, *Explosive Weapons in Populated Areas: Humanitarian, Legal, Technical and Military Aspects*, report of the ICRC Expert Meeting, 24–25 February 2015, p. 6.

31 The *San Remo Handbook on Rules of Engagement* does expressly prohibit the use of unobserved indirect fire, observed indirect fire or all indirect fire in a number of situations, including populated areas. See the section “Policies Relevant to Protecting Civilians beyond ISAF and AMISOM”, below.

32 Weaponeering assessment is the process for determining the quantity of a particular weapon to achieve the specific level of damage desired.

ISAF

Afghanistan has been the test case for the NATO-led ISAF and US Forces Afghanistan's (USFOR-A) implementation of new policies, tactics, techniques and procedures to minimize civilian harm.³³ Methods included employing collateral damage estimates; issuing tactical directives to limit indirect fire and air-to-ground engagements; and creating a CCTC to assess the impact of military operations. Overlaying these policies was the ISAF commander's guidance to all personnel in theatre to reduce civilian casualties. These policies to address civilian harm were adopted by ISAF commanders as mission-critical in the face of growing criticism by the Afghan government and its citizens, and international and national organizations.³⁴

ISAF initially limited the use of explosive weapons by banning the use of cluster munitions beginning in 2007, prior to the 2008 Convention on Cluster Munitions. Additionally, beginning in 2007, ISAF and USFOR-A issued a number of tactical directives and fragmentary orders (FRAGOs)³⁵ to place limitations on weapon use, particularly air-delivered weapons. ISAF issued these directives after high numbers of civilian casualties during combat operations in 2007 and 2008.³⁶ ISAF recognized that while air-delivered ordinance delivered tactical results, the high number of civilian casualties had "strategic implications" that "forced a fundamental revision of ISAF targeting protocols and engagement procedures".³⁷

Civilian harm mitigation efforts undertaken by ISAF

As the operational tempo of ISAF and USFOR-A increased in Afghanistan, so did civilian casualties. This raised concerns from the ICRC, the United Nations

33 The United States launched Operation Enduring Freedom (OEF) in Afghanistan in October 2001 after the September 11 attacks. Following the UN-initiated Bonn Conference to develop a roadmap for Afghanistan's reconstruction, the UN Security Council in December 2001 authorized ISAF to assist the Afghan Transitional Authority. ISAF was initially led by six-month rotations of troop-contributing countries. When NATO assumed leadership of ISAF operations in August 2003, the international imperative was to provide reconstruction and training assistance to the Afghan government and the Afghan National Security Forces. OEF maintained a concurrent mission in Afghanistan, with the bulk of kinetic action being carried out by US troops. In October 2003, ISAF began to expand beyond Kabul in order to provide stability and security assistance in the Afghan provinces. The expansion took place in four stages from 2003 to 2006. By the last stage of expansion in 2006, ISAF commanded all international military forces across Afghanistan, although OEF remained in operation concurrently. At the same time, anti-government groups stepped up attacks, dramatically increasing the combat operations tempo. As ISAF and OEF combat operations increased, so too did civilian casualties. Center for Civilians in Conflict (CIVIC), *Civilian Harm Tracking: Analysis of ISAF Efforts in Afghanistan*, 2014, p. 3, available at: http://civiliansinconflict.org/uploads/files/publications/ISAF_Civilian_Harm_Tracking.pdf.

34 *Ibid.*; CIVIC interviews with three former ISAF Commanders in 2014; Sarah Sewall and Dr. Larry Lewis, *Reducing and Mitigating Civilian Casualties: Afghanistan and Beyond – Joint Civilian Casualty Study*, Joint Center for Operational Analysis, US Joint Forces Command, 2010 (redacted version on file with author).

35 FRAGOs are issued as a revision to a directive.

36 Interviews with former ISAF officials cited in CIVIC, above note 33.

37 ISAF, *The ISAF Civilian Casualty Avoidance and Mitigation Framework: Sustaining Best Practice*, 31 May 2014 (on file with author), p. 38.

Assistance Mission in Afghanistan (UNAMA), the Afghan Independent Human Rights Commission, Human Rights Watch, Amnesty International and the Center for Civilians in Conflict (CIVIC).

In May 2007, the ISAF leadership ordered an internal report discussing the effect of civilian casualties caused by a US air strike in Shindand, Herat province, the month prior.³⁸ As a result of the report's findings, in June 2007, General Dan McNeill (commander of ISAF (COMISAF) at the time) issued ISAF's first tactical directive focused on reducing harm by clarifying guidance on night raids, and requiring formal collateral damage estimates (CDEs).³⁹ The directive states: "Whenever our actions in battle cause injury or death to civilians or property damage or destruction, we diminish our effectiveness." The directive focused on three areas – raids, pre-assault or preparatory fires, and air-to-ground or indirect fire – and ordered that:

- Pre-assault or preparatory fires are to be treated as deliberate targeting operations, which require preapproval and formal collateral damage estimates.
- Air-to-ground or indirect fires are to be used only when forces are taking fire from the compound or there is an imminent threat from the compound, and when there are no other options available to the ground force commander to protect the force and accomplish the mission.
- When tactically feasible, small arms are to be used instead of air-to-ground or indirect fire.⁴⁰

In June 2008, two air strikes in Azizabad caused a significant number of civilian casualties. Information on these events from local and international organizations, including UNAMA, differed dramatically from ISAF's account, warranting a second tactical directive by then COMISAF General McKiernan. The content was similar to the 2007 directive, focusing *inter alia* on air-to-ground and indirect fire and limited their use to purely self-defence and instances where there were no other options for force protection. The 2008 directive also called for acknowledgement of civilian casualties, including property damage, and for forces to document civilian harm through a battle damage assessment (BDA) process.⁴¹

But the data discrepancies between ISAF and others – including UNAMA, which had begun recording civilian casualties in 2007⁴² – were such that ISAF's reporting mechanisms appeared weak.⁴³ To coincide with the new tactical

38 CIVIC interview with Major-General Gordon B. Davis, former Chief of the Strategic Advisory Group to COMISAF, March 2014.

39 CIVIC, above note 33, p. 3.

40 2007 Tactical Directive, cited in S. Sewall and L. Lewis, above note 34, p. 23.

41 *Ibid.* US Central Command (CENTCOM) also issued a civilian casualty-related directive in September 2008 in response to the August 2008 Azizabad incident, calling for rapid reporting and investigation. CENTCOM Tactical Directive, September 2008.

42 Oxford Research Group, *The UN and Casualty Recording: Good Practice and the Need for Action*, April 2014, available at: <http://oxfordresearchgroup.org.uk/sites/default/files/ORG-UN-and-CR.pdf>.

43 Human Rights Watch, *Troops in Contact: Airstrikes and Civilian Deaths in Afghanistan*, September 2008, available at: www.hrw.org/report/2008/09/08/troops-contact/airstrikes-and-civilian-deaths-afghanistan.

directive, in late August 2008 ISAF created a CCTC at ISAF headquarters, to allow ISAF to gather data on harm caused during operations and report it to ISAF leadership.⁴⁴ Prior to this, ISAF did not systematically track allegations of civilian casualties, as this was not standard practice for militaries. NATO “did not have procedures or a coherent system to address civilian casualties”.⁴⁵ Rather, notifications of suspected civilian casualties were investigated for legal violations by troop-contributing countries whose forces were involved. Some nations, such as the United States, also made condolence or *ex gratia* payments for incidental harm.⁴⁶

The CCTC – staffed by two to five personnel depending on resources and housed within the Combined Joint Operations Command in Kabul – initially functioned to strengthen ISAF’s internal situational awareness of civilian harm in order to better respond to allegations.⁴⁷ Over time, the CCTC began to amass information on civilian casualties and examine it for trends that were used to provide recommendations to ISAF on civilian casualty mitigation.

Command emphasis on civilian casualty mitigation continued to be critical in Afghanistan. The commander’s intent was communicated in tactical directives not only to ensure that subordinates understood the importance of civilian casualty mitigation, evidence-based causal factors and proper reporting and assessments, but also to reinforce the requirement of balancing military necessity against the risk of harm to civilians.⁴⁸

Following the establishment of the CCTC in August, General McKiernan issued another directive in December 2008 that called for “good tactical judgment, necessity and proportionality” to drive every action and engagement, and stated that “minimizing civilian casualties is paramount”.⁴⁹ Unfortunately, these directives were only as effective as their implementation and dissemination. Another incident in Farah province in 2009, where the unit was unaware of the new restrictions, resulted in a July 2009 directive issued by the new ISAF commander, General Stanley McChrystal, which sought to renew ISAF’s focus on civilian harm.⁵⁰ The directive amplified reporting requirements through BDAs for

44 CIVIC, above note 33, pp. 2–4.

45 *Ibid.*, p. 3.

46 In 2010, the North Atlantic Council approved amends guidelines for ISAF in Afghanistan that includes acknowledgement and financial assistance for civilian death, injury and property damage. See NATO, “NATO Nations Approve Civilian Casualty Guidelines”, 6 August 2010, available at: www.nato.int/cps/en/natohq/official_texts_65114.htm?selectedLocale=en. For further details on amends policies in Afghanistan, see CIVIC, *Addressing Civilian Harm in Afghanistan: Policies and Practices of International Forces*, 2010, available at: http://civiliansinconflict.org/uploads/files/publications/Addressing_civilian_harm_white_paper_2010.pdf; CIVIC, *Losing the People: The Costs and Consequences of Civilian Suffering*, 2009, available at: http://civiliansinconflict.org/uploads/files/publications/losing-the-people_2009.pdf.

47 CIVIC, above note 33, p. 5.

48 COMISAF Initial Assessment on Afghanistan, 2009 (unclassified), available at: www.washingtonpost.com/wp-dyn/content/article/2009/09/21/AR2009092100110.html.

49 ISAF Tactical Directive, December 2008, available at: www.nato.int/isaf/docu/official_texts/Tactical_Directive_090114.pdf.

50 ISAF Tactical Directive, 6 July 2009, available at: www.nato.int/isaf/docu/official_texts/Tactical_Directive_090706.pdf.

all engagements and reiterated the need to limit air strikes on residential compounds. It emphasized that:

- Leaders at all levels are to scrutinize and limit the use of force such as close air support (CAS) against residential compounds and other locations likely to produce civilian casualties.
- Commanders must weigh the gain of using CAS against the cost of civilian casualties, which in the long run make mission success more difficult and turn the Afghan people against ISAF.
- The use of air-to-ground munitions and indirect fire against residential compounds is only authorized under very limited conditions.⁵¹

Such guidance also served to institutionalize and improve the flow of data to the CCTC. A new ISAF Standard Operating Procedure 307 was also issued that provided guidance on reporting requirements for civilian casualties.⁵² An incident in Kunduz in 2009 led to the term “troops in contact” being redefined to prevent self-defence criteria from being used inappropriately.⁵³

Critically, such guidance began to see the desired effect of reducing civilian harm. At a 2013 UN-organized event focusing on explosive weapons in populated areas, Brigadier-General Richard Gross, former legal adviser to the COMISAF, noted that the 2009 directive resulted in a great reduction in civilian casualties as the effect of the directive was to oblige commanders to consider alternatives such as small arms fire or even withdrawing when military personnel’s lives were not at risk.⁵⁴ UNAMA’s annual protection of civilians report noted a decrease in civilian harm attributed to pro-government forces in 2009–10. In 2009, 573 deaths were attributed to both Afghan and international forces; in 2010, the figure was around 429.⁵⁵

Notably, some subordinate-level US commanders were critical of the 2009 directive, interpreting it as more restrictive than was required.⁵⁶ There was also a perception among some troops and commanders that the right of self-defence was being compromised.⁵⁷ The new COMISAF, General David Petraeus, clarified in his Senate confirmation hearing that “focusing on securing people does not, however, mean we don’t go after the enemy”.⁵⁸ When Petraeus assumed command in July 2010, he conducted a review of all tactical directives and issued a new directive in August 2010, which instructed that “[s]ubordinate commands

51 The conditions are classified for operational reasons.

52 Author conversation with ISAF CCMT team.

53 Author conversation with Dr. Larry Lewis (see above note 34), noting the ISAF FRAGO, air support request procedures and “troops in contact” terminology, 14 October 2009.

54 Brigadier-General Richard Gross, presenting at the OCHA-Chatham House Meeting on Reducing the Humanitarian Impact of the Use of Explosive Weapons in Populated Areas, 23–24 September 2013.

55 UNAMA, *Afghanistan Annual Report 2014: Protection of Civilians in Armed Conflict*, February 2015, p. 10.

56 Personal interviews with US servicemen, 2013–14.

57 David Zucchino, “As U.S. Deaths in Afghanistan Rise, Military Families Grow Critical”, *Los Angeles Times*, 2 September 2010.

58 Opening Statement of General David Petraeus, US Senate Armed Services Committee, 29 June 2010; Elizabeth Bemuller, “Petraeus Pledges to Look at Strikes in Afghanistan”, *New York Times*, 29 June 2010, available at: www.nytimes.com/2010/06/30/world/asia/30petraeus.html?_r=0.

are not authorized to restrict this guidance further without my authorization”.⁵⁹ This new language sought to clarify that the directive was the ceiling and not the floor, and instructed commanders not to add additional restrictions.

Petraeus went further and adopted an even more stringent standard for civilian protection, requiring verification that there were “no civilians present” to approve strikes outside of self-defence.⁶⁰ The directive underlined the importance of protection of civilians as key to successful mission completion, while reinforcing the concept of “disciplined use of force”.⁶¹ The directive noted that ISAF

must continue – indeed, redouble – our efforts to reduce the loss of innocent civilian life to an absolute minimum. Every Afghan civilian death diminishes our cause. If we use excessive force or operate contrary to our counterinsurgency principles, tactical victories may prove to be strategic setbacks.⁶²

The directive also stressed the importance of training ISAF forces to know and understand the ROE and the intent of the tactical directive so that they would have “the confidence to take all necessary actions when it matters most, while understanding the strategic consequences of civilian casualties”.⁶³

These tactical directives, and the creation of the CCTC, coincided with an August 2010 study – commissioned by Generals Petraeus and McChrystal – that examined US efforts to reduce and mitigate civilian casualties in Afghanistan. This was yet another attempt to learn and improve ways to address civilian harm by undertaking evidence-based assessment outside the ISAF and USFOR-A chain of command. After analyzing several hundred incidents, the study team, which had top-secret clearance, provided a list of primary causal factors for different types of operations, including air strikes, checkpoint operations, artillery fire and vehicle movements, and made specific recommendations for changes in guidance and tactics. In response, USFOR-A and ISAF made a number of changes to their conduct of operations, improved trainings focusing on civilian casualty mitigation and promulgated new policies for tactical forces in Afghanistan.⁶⁴

In 2011, as new guidance was being issued, the CCTC was expanded into the Civilian Casualty Mitigation Team (CCMT), with more resources dedicated to addressing the causes of civilian casualties and to outreach to civil society for cross-checking allegations and informing mitigation efforts.⁶⁵ Led by a colonel, the CCMT created internal working groups with representatives from ISAF headquarters and subordinate commands, and provided guidance

59 ISAF Tactical Directive, 4 August 2010, available at: www.rs.nato.int/article/isaf-releases/general-petraeus-issues-updated-tactical-directive-emphasizes-disciplined-use-of-force.html.

60 *Ibid.*

61 *Ibid.*

62 *Ibid.*

63 *Ibid.*

64 S. Sewall and L. Lewis, above note 34.

65 CIVIC, above note 33, p. 7.

on civilian casualty avoidance and mitigation. Its mandate included coordinating subject-specific studies and providing recommendations to ISAF leadership; leading the working groups that addressed modification or establishment of policies, tactical directives and standard operating procedures; and collecting and archiving lessons learned and best practices in avoiding civilian harm.⁶⁶ Externally, expansion of the CCMT sought to strengthen ISAF's relationship with its Afghan counterparts, UNAMA and NGOs in order to discuss allegations of civilian harm and to cross-check military data with external sources for discrepancies. The dialogue with external and independent organizations was critical for ISAF leadership to re-examine its own incident reporting and engage on recommendations to reduce civilian harm. The tracking data and analysis was used to formulate recommendations to ISAF leadership and to influence recommendations for pre-deployment training on civilian casualty mitigation for the troop-contributing countries.⁶⁷

For instance, analyzing causes of civilian harm incidents led to improvement over time in assessing hostile intent when determining the right to use lethal force, which warranted new guidance. Forces sometimes misinterpreted the intent behind Afghans digging in the ground during the night, suspecting it to be emplacement of IEDs; in actuality, during hot weather Afghans prefer working during the cooler night. Or, because Afghanistan has an armed culture, possession of a weapon does not equate to hostile intent, but when US forces approached a compound, especially at night, Afghan self-defence actions were sometimes misinterpreted as hostile intent, making it difficult to discern civilians. US forces then began to use tactics such as "call-outs", and other forces worked through local leaders to reduce the risk of surprising the population and thus avoid civilian harm.⁶⁸

Notably, the various tactical directives and guidance and the creation of the CCMT, including sustained engagement with external organizations like UNAMA, led to an improvement in reporting and analysis of civilian harm over time. Identified lessons from incidents allowed forces to learn from mistakes rather than repeating them. As the co-author of the *Joint Civilian Casualties* study, Dr. Larry Lewis, told CIVIC, the successive directives showed the benefit of "revising guidance to reflect improved understanding".⁶⁹ Command emphasis on minimizing civilian harm continued – for instance, ISAF again revised an earlier directive on 30 November 2011, reminding forces that civilian presence should be assumed, and that all Afghans were to be presumed civilians unless proven otherwise. ISAF also emphasized trainings and post-strike investigations.⁷⁰ Then

66 *Ibid.*

67 *Ibid.*

68 Author conversations with US servicemen and ISAF. See also Harvard Law School International Human Rights Clinic, *Tackling Tough Calls: Lessons from Recent Conflicts on Hostile Intent and Civilian Protection*, March 2016, available at: www.justsecurity.org/wp-content/uploads/2016/03/Tackling-Tough-Choices-Hostile-Intent-HLSIHR-2016.pdf.

69 Personal interview with Dr. Larry Lewis, Center for Naval Analysis, July 2015.

70 Revision 3 of ISAF Tactical Directive on Defensive Operations, available at: [www.isaf.nato.int/images/docs/20111105%20nuc%20tactical%20directive%20revision%204%20\(releaseable%20version\)%20r.pdf](http://www.isaf.nato.int/images/docs/20111105%20nuc%20tactical%20directive%20revision%204%20(releaseable%20version)%20r.pdf).

COMISAF General John Allen reiterated the need to “balance our pursuit of the enemy with our efforts to minimize the loss of innocent civilian life and our obligation to protect our troops”.⁷¹

ISAF also employed and refined its collateral damage estimation methodology, which was noted in the first 2007 tactical directive, to assist commanders in foreseeing incidental civilian harm in targeting decisions and minimizing harm by altering variables like choice of weapon, warhead and munitions fuse, and the timing and angle of the attack.⁷² Population density, building material and secondary fragmentation, among other information about the target and its surroundings, were considered in carrying out a CDE.⁷³ The availability, range and quality of information used for the CDE depended on the context, while the depth of the CDE analysis depended on whether targets were time-sensitive (see discussion below).

Concurrently with the tactical directives and creation of the CCMT, ISAF emphasized training to reduce civilian casualties. ISAF fed civilian casualty training requirements back to the NATO command structure, and these were subsequently included in NATO Training Directive 75–8 and civilian casualty prevention and mitigation training.⁷⁴ This fed into pre-deployment trainings and in-mission trainings of forces, and into supplementary publications focusing on civilian casualty mitigation including the *Afghanistan Civilian Casualty Prevention Handbook* and *Rules of Engagement Vignettes*.⁷⁵

These directives, tools such as CDEs, BDAs and the CCMT, and trainings worked, and civilian harm attributed to ISAF decreased. UNAMA, which maintained a consistent dialogue with ISAF on civilian casualties and issued annual reports with statistics mapping out the impact of conflict and types of civilian harm on men, women and children, reported a steady decline in harm caused by ISAF despite a troop surge in 2010–12. In 2007, UNAMA attributed 629 deaths to pro-government (both Afghan and international) forces.⁷⁶ By the end of the ISAF mission in 2014, the average number of civilian casualties per ISAF-caused incident was reduced by almost 75%: in 2009, there were 573 deaths attributed to Afghan and international forces; in 2010, 429; in 2011, 519; in 2012, 324; in 2013, 354; and in 2014, at the end of the ISAF mission, UNAMA attributed 162 deaths to international military forces.⁷⁷

71 Allen Tactical Directive, November 2011, available at: [www.pksoi.org/document_repository/doc_lib/20111105%20nuc%20tactical%20directive%20revision%204%20\(releaseable%20version\)%20r%5B1%5D.pdf](http://www.pksoi.org/document_repository/doc_lib/20111105%20nuc%20tactical%20directive%20revision%204%20(releaseable%20version)%20r%5B1%5D.pdf).

72 CIVIC interviews with USFOR-A and ISAF officials, 2010–12.

73 *Ibid.*

74 NATO Joint Analysis and Lessons Learned Centre, *Protection of Civilians: How ISAF Reduced Civilian Casualties*, 1 June 2015 (on file with author).

75 Center for Army Lessons Learned, *Afghanistan Civilian Casualty Prevention Handbook*, June 2012 (CIVIC was a contributing author to this handbook); Center for Army Lessons Learned, *Rules of Engagement Vignettes: Observations, Insights and Lessons*, May 2011.

76 See UNAMA, above note 55, p. 10.

77 *Ibid.*, pp. 10, 78.

AMISOM

On 19 January 2007, the African Union Peace and Security Council created AMISOM, endorsed by the UN Security Council one month later.⁷⁸ AMISOM's mandate included a variety of tasks, including protecting the Somali Transitional Federal Government (TFG), conducting an enforcement campaign against Al-Shabaab and other actors fighting the TFG, implementing a range of civilian-military projects, policing tasks, and providing training and support to TFG security forces.⁷⁹

Much of the fighting in Mogadishu was conducted along traditional front lines, with the TFG and AMISOM controlling one part of the city and Al-Shabaab another. Both parties relied heavily on artillery fire and other indirect fire weapons. In a tactic documented by CIVIC as well as Human Rights Watch, Al-Shabaab would fire mortars from locations with significant civilian presence but refuse to let civilians leave those areas.⁸⁰ When AMISOM returned fire with heavy weapons, civilian casualties were inevitable. Al-Shabaab also used converted Toyota minibuses as mobile artillery launchers to fire at TFG and AMISOM forces before quickly departing the scene, leaving the area exposed to retaliatory fire.⁸¹ AMISOM vehicles caused injuries through road traffic accidents,⁸² and other forms of collateral harm occurred when civilians were caught in the crossfire, as front lines in Mogadishu moved often and unpredictably.

Amidst growing concerns that civilian casualties were undermining operational success, AMISOM implemented a number of corrective actions. External advisers were brought in, including CIVIC, to conduct an assessment and recommend changes, which included the development of a new indirect fire policy, revision of the ROE, revamping AMISOM's approach to strategic communications, and creating a CCTC. These were designed to better meet AMISOM's obligations under IHL, but were also in line with ISAF's view that civilian casualties undermined mission success and longer-term objectives.

Indirect fire policy

The indirect fire (IDF) policy set forth the intent of AMISOM to minimize civilian harm through changes in policies, ROE, and response to civilian harm. The introduction to the IDF policy states:

78 The Peace and Security Council is the standing organ of the African Union for the prevention, management and resolution of conflicts. For more information, see: www.au.int/en/organs/psc.

79 Paul Williams, "The African Union Mission in Somalia and Civilian Protection Challenges", *Stability: International Journal of Security and Development*, Vol. 2, No. 2, 2013, p. 10. CIVIC and UK Major-General Roger Lane conducted an assessment of AMISOM's operations and co-wrote AMISOM's indirect fire weapon policy.

80 CIVIC, *Civilian Harm in Somalia: Creating an Appropriate Response*, 2011, pp. 18–23; Human Rights Watch, "You Don't Know Who to Blame": *War Crimes in Somalia*, 2011.

81 CIVIC, above note 80.

82 *Ibid.*

Winning the support of the people is the guiding principle for the planning and conduct of all our operations. Minimizing civilian harm must be a guiding principle for the planning and conduct of all our operations, and further is a humanitarian imperative on which we all agree.⁸³

The IDF policy articulates a three-step process of “Avoid, Attribute and Amend”:

- Where possible, AMISOM will *avoid* the use of IDF, which can cause extensive civilian casualties. Indirect fire will only be used for self-defense in extreme cases, and to protect the civilian population where a clear military objective is identified and where the military advantage gained is overwhelmingly superior to the potential risk of harm to the civil population.
- When IDF is reported, AMISOM must *attribute* responsibility to the originator – detect the origin of IDF, correlate this with AMISOM’s own IDF firing records and apologize quickly when responsible; refute the allegation by accounting for the use of its weapons accurately; or apportion responsibility to opposing forces, based on credible intelligence.
- Make *amends*⁸⁴ for civilian harm caused unintentionally by AMISOM by recognizing losses and providing immediate assistance to those who have been injured, distressed or otherwise affected by AMISOM operations, including IDF.⁸⁵

Other measures taken by AMISOM included creating no-fire zones around hospitals, residential areas, markets, religious places and camps for internally displaced persons, and restricting the use of 107 mm rocket artillery. The measures undertaken reflected the accuracy problems of this wide-area-effect weapon in harming civilians. Counter-battery fire was limited to “de-populated areas” in order to minimize collateral damage.⁸⁶ The IDF policy recommended the use of CDEs before weapon use, mandatory refresher training for military personnel involved in the use of IDF, after-action reports following an incident to identify lessons and feed into trainings, employing unarmed aerial vehicles (UAVs or “drones”) to record patterns of life to improve distinction, and the creation of a CCTC.

In late 2011, the IDF policy recommendation to create a CCTC was heeded when this mechanism was endorsed by UN Security Council Resolution 2036. In 2012, the African Union Commission provided support to AMISOM to develop a mission-wide strategy to incorporate the protection of civilians into AMISOM operations. The civilian casualty tracking analysis and response cell (CCTARC)

83 AMISOM, *Commander African Union Mission in Somalia – Indirect Fire Weapon Policy*, 2011 (on file with author).

84 Making amends is the practice whereby parties to a conflict acknowledge civilian harm and offer culturally appropriate and dignifying gestures of assistance in accordance with victims’ needs and preferences, despite having no legal obligations to do so. See CIVIC, “Frequently Asked Questions on Amends”, available at: http://civiliansinconflict.org/uploads/files/publications/Amends_FAQ_2013.pdf.

85 AMISOM, above note 83.

86 Counter-battery fire is return fire against an enemy IDF position.

began operating in 2015.⁸⁷ The AMISOM CCTARC – composed of data, military and legal analysts – is tasked with tracking incidents and allegations of civilian harm, analyzing causes of harm and recommending guidance on tactics and trainings, responding to individual incidents and ensuring that civilians receive amends (acknowledgment and assistance), and engaging in dialogue with external organizations in order to cross-check internal incident reporting.

Implementing the IDF policy specifically on restrictions on the use of counter-battery fire in populated areas resulted in a reduction of civilian harm by AMISOM in Mogadishu.⁸⁸ While no public data recording the number of civilian deaths and injuries attributed to AMISOM, like UNAMA’s recording mechanism for Afghanistan, is available, AMISOM reports that it is investigating allegations of civilian casualties and apologizing to civilians accidentally harmed by AMISOM.⁸⁹

Policies relevant to protecting civilians beyond ISAF and AMISOM

While this article does not include a survey of all military doctrines and policies, as many are not publicly available, a brief overview of those available shows that some militaries recognize the first-, second- and third-order effects of civilian harm.⁹⁰

The *San Remo Handbook on Rules of Engagement*⁹¹ proposes restricting the use of indirect fire weapons, defined as “fire directed at a target that cannot be seen by the aimer and that is not itself used as a point of aim for the weapons or the director”,⁹² in populated areas.⁹³ The *Handbook* distinguishes between “observed

87 CIVIC wrote an implementation plan for the CCTARC and helped to set it up. The CCTARC was established under the authority of the African Union Peace and Security Council, pursuant to the mandate set out in various UN Security Council resolutions, including UNSCR 2036 (2012), UNSCR 2093 (2013), UNSCR 2124 (2013), UNSCR 2182 (2014) and UNSCR 2232 (2015). See also AMISOM, Civilian Casualty Tracking Analysis Cell, available at: <http://amisom-au.org/cctarc/>.

88 Walter Lotze and Yvonne Kasumba, “AMISOM and the Protection of Civilians in Somalia”, *Conflict Trends*, Vol. 2, 2012 (the authors wrote this article in their capacity as civilian planning and liaison officers in the Peace Support Division of the African Union Commission, in Addis Ababa, Ethiopia).

89 AMISOM, “AMISOM Investigates Claims of Civilian Deaths in Wardinle, Bay Region”, press release, 19 July 2016, available at: <http://amisom-au.org/2016/07/amisom-investigates-claims-of-civilian-deaths-in-wardinle-bay-region/>; “AU Mission Apologises for Somali Civilian Deaths,” *Al Jazeera*, 17 April 2016, available at: www.aljazeera.com/news/2016/04/amisom-somalia-civilian-deaths-160417132914157.html (AMISOM apologizes for accidentally killing four civilians after soldiers mistook them for Al-Shabaab fighters when they failed to stop at a roadblock).

90 Direct effects are immediate first-order effects, the results of military actions with no intervening effect between act and outcome, and are recognizable – for example, the immediate, physical results of weapons use. Indirect effects are second- and third-order systematic effects that are created through an intermediate effect or mechanism, which may be physical or psychological in nature. Indirect effects tend to be delayed, may be difficult to recognize, and are often a cumulative or cascading result of combined impacts. Joint Chiefs of Staff, *Joint Targeting*, JP 3-60, 31 January 2013, pp. II-35–II-36, available at: http://cfr.org/content/publications/attachments/Joint_Chiefs_of_Staff-Joint_Targeting_31_January_2013.pdf.

91 The *Handbook* reflects best practice from nations across the globe. It is intended not to state the official position of governments or international organizations, but for practitioners to use it as a guide when drafting rules of engagement.

92 International Institute of Humanitarian Law, *San Remo Handbook on Rules of Engagement*, San Remo, November 2009, available at: www.iihl.org/wp-content/uploads/2015/12/ROE-HANDBOOK-ENGLISH.pdf.

93 *Ibid.*

indirect fire”, for which the point of impact or burst⁹⁴ can be seen by an observer, and “unobserved indirect fire”, for which the point of impact or burst is not observed. Direct fire and observed indirect fire are “permitted unless restricted by a rule” of a nation’s military. Noteworthy is that the proposed ROE identify “populated areas” as situations where unobserved fire, observed indirect fire or direct fire can be restricted by a rule.⁹⁵

The 2009 Australian Defence Force’s joint targeting manual has a broad definition of collateral effects, stating that such effects are “not damage to a target or any directly associated collateral damage to the immediate area, rather they are any effect(s) achieved beyond those for which the action was undertaken”.⁹⁶ The manual recommends “sound planning” for such collateral effects.⁹⁷ The manual also recommends that sensitive targets need not be related to collateral damage. Instead, “a target may be identified as a sensitive target when the commander has estimated that the physical damage and collateral effects on civilian and/or on-combatant persons, property, and environments, occurring incidental to military operations, exceed established national-level notification thresholds.” Sensitive targets also include those targets that “exceed national-level rules of engagement ... thresholds, or where the commander determines the effects from striking the target may have adverse political ramifications. In essence, sensitive targets require national level approval.”⁹⁸

The UK’s 2012 *Joint Service Manual of the Law of Armed Conflict* places requirements on its commanders to consider “the foreseeable effects of attack”, noting that the “characteristics of the target may be a factor here”.⁹⁹ Such characteristics can include density of population and infrastructure, dependence on infrastructure, and interconnectedness of urban centres.¹⁰⁰ The manual includes the example of an attack on a military fuel storage depot where there is a foreseeable risk of the burning fuel flowing into a civilian residential area.

In 2012, the US Army issued doctrine through ATTP 3-37.31, *Civilian Casualty Mitigation*,¹⁰¹ which was updated as the 2015 *Protection of Civilians* doctrine. It recommends alternative methods to limit civilian harm, stating: “During actions on contact, use fire and maneuver rather than indirect fires and airstrikes as the default response, and raise the authority for fires clearance to

94 Use of the term “burst” in this context indicates that indirect fire is about weapons that explode, but the notion of indirect fire focuses on a mode of delivery rather than on blast and fragmentation effects. *Ibid.*, p. 85.

95 *Ibid.*

96 Australian Defence Force, *Targeting*, ADDP 3.14, 2009, p. 1-10, available at: www.defence.gov.au/foi/docs/disclosures/021_1112_Document_ADDP_3_14_Targeting.pdf.

97 *Ibid.*

98 *Ibid.*, at pp. 1–6. Examples of what are considered sensitive targets are not listed.

99 UK Ministry of Defence, *Joint Service Manual of the Law of Armed Conflict*, 2004, p. 86, para. 5.33.4, available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/27874/JSP3832004Edition.pdf.

100 See, generally, US Joint Chiefs of Staff, *Joint Urban Operations*, JP 3-06, 20 November 2013, available at: http://pksoi.army.mil/default/assets/File/atp3_07x6.pdf.

101 US Department of the Army, *Protection of Civilians*, ATP 3-07.6, 29 October 2015, section 5-39, available at: http://pksoi.army.mil/default/assets/File/atp3_07x6.pdf.

higher command levels.”¹⁰² The manual also recommends using CCTCs and BDAs, which are being implemented by the United States for operations in Iraq and Syria (see below).

The 2013 US *Joint Urban Operations* doctrine similarly emphasizes the potential for civilian casualties in urban areas, noting that such operations “may have more restrictive operational limitations than operations elsewhere”.¹⁰³ It states:

The presence of civilians and the need to preserve infrastructure greatly influence operations and help shape the rules of engagement (ROE) and rules for the use of force (RUF). Operations-specific ROE or RUF are often clarified and refined as required by the situation to allow flexibility in accomplishing the mission while limiting civilian collateral damage and friendly casualties.¹⁰⁴

Specifically, the doctrine instructs the use of precision munitions to “prevent friendly fire, minimize civilian casualties, and limit collateral damage”.¹⁰⁵ While the doctrine does not specifically address explosive weapons in populated areas, the instruction is clear that ROE, choice of weapons, and targeting in urban areas are distinct from operations in other locations due to a heightened risk of causing civilian casualties.

Some armed forces, such as those of the United States, United Kingdom and Australia, also have “no-strike” policies in order to reduce the impact of hostilities on civilians, including from the effects of explosive weapons.¹⁰⁶ For example, the US Joint Chiefs of Staff Instruction on *No Strike and the Collateral Damage Estimation Methodology* of October 2012 provides that no-strike entities (NSEs) are those designated by the appropriate authority upon which kinetic or non-kinetic operations are prohibited to avoid violating international law, conventions or agreements, or damaging relations with coalition partners and indigenous populations.¹⁰⁷ NSEs are protected from the effects of military operations,¹⁰⁸ and are categorized based on their sensitivity: either CAT I (most sensitive) or CAT II (less sensitive).¹⁰⁹ The policy refers to “collateral objects”

102 *Ibid.*

103 US Joint Chiefs of Staff, above note 101, p. I-6.

104 *Ibid.*, p. I-6.

105 *Ibid.*, p. I-7.

106 Australian Defense Force, above note 96, pp. 4-7, 4-8. A no-strike policy states that certain “objects or entities [are] characterised as protected from military effects under international law and/or rules of engagement” and cannot be attacked. The manual does not list what targets are designated on no-strike lists, but the likely entities that are included on a US no-strike list are presented in note 109 below.

107 Chairman of the US Joint Chiefs of Staff, *No Strike and the Collateral Damage Estimation Methodology*, Instruction, 12 October 2012, available at: <https://publicintellgence.net/cjcs-collateral-damage/>.

108 *Ibid.*, p. B-1.

109 CAT I includes: diplomatic offices, foreign missions; religious, cultural, historical institutions, cemeteries, and structures; intergovernmental organizations (e.g., UN, NATO) and NGO property, equipment and personnel; medical facilities (both civilian and military); public education facilities including non-military schools, colleges, universities, child/day care centres, and institutes; civilian refugee camps and concentrations; prisoner of war camps and concentrations and government detention facilities/prisons; facilities whose engagement may result in pollution that cannot be contained, to include contamination of standing water, streams and rivers; and dams or dykes whose engagement may result in the flooding of civilian areas. CAT II includes: non-military billeting and accommodations, including private

that have a geospatial relationship to a target and may be affected, or potentially affected, by target engagement. Knowledge of the location and function of collateral objects is essential to target development, the no-strike policy and the collateral damage methodology.¹¹⁰

In 2012, the United States updated its collateral damage estimation methodology (CDM), and it views CDMs as a means for commanders to adhere to the laws of war.¹¹¹ A CDM is typically done via a computer model and is aimed at helping commanders to understand weapon effects, incidental consequences and mitigation techniques. The US Joint Chiefs of Staff Instruction defines collateral damage as unintentional or incidental injury or damage to persons or objects that would not be lawful military targets in the circumstances ruling at the time.¹¹² The CDM produces a conservative characterization of the risk of collateral damage for commanders and decision-makers, and uses a mix of empirical data, probability, historical observations and complex modelling for analysis. However, it is limited by the quantity and reliability of collected weapons effects data, weapon delivery uncertainties and target information. Furthermore, the CDM cannot always account for the dynamics and unpredictability of the urban operational environment.¹¹³

Notably, the CDM does not account for unknown transient civilian or non-combatant personnel and/or equipment in the vicinity of a target area. This includes cars passing on roads, people walking down the street, or other civilian entities whose presence in the target area cannot be predicted to a reasonable certainty within the capabilities and limitations of intelligence collection means. The Instruction notes that it is an inherent responsibility for commanders, at all levels, to employ due diligence to identify assemblies of civilian or non-combatant personnel and/or property in the target area and de-conflict target engagements when possible.¹¹⁴

The Instruction notes that the CDM does not account for the use of cluster or improved conventional munitions beyond CDE Level 3 (a weaponizing assessment process)¹¹⁵ because of the greater risk of unexploded ordnance and

civilian housing and family housing on military or government property; civilian meeting places including athletic fields, stadiums, racetracks, parks, civic and convention centres, theatres, amusement parks, markets and recreational facilities; public utilities and facilities including those that generate, distribute or transport electricity, petroleum or water intended for civilian consumption; commercial fuel service stations, civilian mass transit facilities, water supply facilities, waste facilities, urban gas supply, fire stations, postal facilities, police stations, civil defence facilities and financial institutions; agricultural processing and storage facilities that produce, market or distribute foodstuffs for civilian consumption; public utilities, industrial facilities and storage depots that have the potential to release toxic chemicals that may contaminate air, food, soil or water resources; and facilities and/or structures for which the functionality/purpose is unknown.

110 *Ibid.*, p. B-7.

111 *Ibid.*, p. D-1.

112 *Ibid.*, p. D-2.

113 *Ibid.*, pp. D-1–D-2, D-5.

114 *Ibid.*

115 The goal of CDE Level 3 is to achieve a low collateral damage estimate while limiting the number of tactical weaponizing restrictions. CDE Level 3 determines appropriate delivery systems and warhead and fuse combinations that mitigate the risk of collateral damage while still achieving the desired effect on the target. *Ibid.*

the limited weaponeering options available to mitigate the risk of collateral damage.¹¹⁶ Rocket-assisted projectiles or enhanced/extended-range artillery, mortar and naval gun munitions are similarly not addressed beyond CDE Level 3 due to the considerable increase in ballistic errors and subsequent increased risk to civilians when used in urban areas.¹¹⁷ The CDM does not account for secondary explosions – the policy instructs that collateral damage due to secondary explosions (weapons caches or fuel tanks for military equipment) cannot be consistently measured or predicted, so commanders are instructed to remain cognizant of any additional risk.¹¹⁸

While CDM assessments are important to foresee the impact of weapons use and tactics, the quality and source of information analyzed may vary in quantity and quality. Notably, the CDM relies on in-depth analysis for pre-selected targets, versus on-the-spot analysis used for dynamic or time-sensitive targets.¹¹⁹

Battle damage assessments taking into account civilian harm and not just damage caused to the enemy are also now routine for US operations. BDA is the estimate of target damage or effect, which is based on assessments of physical damage, functional damage and target systems, resulting from the application of lethal and non-lethal capabilities.¹²⁰

While BDAs are important for assessing an operation, relying solely on aerial BDAs without ground inspection can result in an incomplete picture of civilian harm. Thus, it is critical to ensure that reporting by third-party organizations with a presence on the ground – such as NGOs, the ICRC or the UN – is considered and cross-checked with operational data to get a complete picture about a particular strike. Underestimating civilian harm by relying only on military data risks not addressing causes for the harm and thus making some of the tools discussed in this paper ineffective.

In July 2016, NATO issued a Policy for the Protection of Civilians that recognizes the lessons learned on civilian casualty mitigation from ISAF, stating that it was committed to institutionalizing these lessons in its operations.¹²¹ NATO has also incorporated the US CDM in its operations.¹²² Notably,

116 *Ibid.*, pp. D-5–D-6.

117 *Ibid.*, p. D-6.

118 *Ibid.*

119 ICRC, above note 30, p. 29.

120 Physical damage includes the quantitative extent of physical damage through munitions blast, fragmentation and/or fire damage effects to a target. Functional damage estimates the effect of attacks and other force employment on the target's ability to perform its intended mission. It may also include an estimate of the time required for the enemy to reconstitute or replace the target functions destroyed or degraded. Target system assessment is a broad assessment of the impact and effectiveness of all types of attacks. US Joint Chiefs of Staff, above note 90, Appendix D, pp. D-4–D-6.

121 NATO, "NATO Policy for the Protection of Civilians", 9 July 2016, available at: www.nato.int/cps/en/natohq/official_texts_133945.htm?selectedLocale=en (also reflecting lessons on civilian casualty mitigation from Afghanistan).

122 Author interview with NATO official at Joint Force Command Brunssum, February 2016.

Afghanistan is seeking to develop capabilities for better reporting and analysis of civilian harm.¹²³

Conclusion

Warfare wreaks havoc to civilian lives, schools, homes, hospitals, and critical infrastructure. Harm to civilians can be minimized through adherence to IHL and utilizing additional tools and trainings to minimize civilian harm in populated areas, and through adoption of policies that prioritize civilian protection discussed in this article.¹²⁴

Some warring parties in current conflicts are implementing some of the tools examined in this article. For instance, in Iraq and Syria, while many armed actors have been found to violate IHL,¹²⁵ the US-led Combined Joint Task Force Operation Inherent Resolve, which includes the UK, Australia, Denmark and other countries who participated in the ISAF mission, is applying many of the policies learnt from Afghanistan, including BDAs, which include civilian harm, and CDMs in targeting the Islamic State (ISIS) group in populated areas where ISIS is entrenched.¹²⁶ The United States has also created a civilian casualty mitigation team for Iraq and Syria to track and investigate allegations of civilian harm and to identify lessons for the purposes of modifying tactics.¹²⁷

However, more needs to be done to use these tools effectively to reduce deaths and injuries attributed to the anti-ISIS coalition air campaign.¹²⁸ Civilian

123 CIVIC has provided technical assistance to the Afghan government in developing civilian casualty mitigation tools and provided input on a national civilian casualty mitigation and prevention policy. NATO's Resolute Support "train, assist and advise" mission, which began in 2015 after ISAF, is working with Afghan security forces on such policies, tools and trainings.

124 Notably, President Barack Obama issued an executive order on addressing civilian casualties that reflects lessons learned in Afghanistan: see "United States Policy on Pre- and Post-Strike Measures to Address Civilian Casualties in U.S. Operations Involving the Use of Force," 1 July 2016, available at: www.whitehouse.gov/the-press-office/2016/07/01/executive-order-united-states-policy-pre-and-post-strike-measures.

125 See, e.g., UN Assistance Mission for Iraq, *Report on the Protection of Civilians in the Armed Conflict in Iraq*, 1 May–31 October 2015; Office of the High Commissioner for Human Rights, *Report of the Independent International Commission of Inquiry on the Syrian Arab Republic*, A/HRC/31/68, 11 February 2016.

126 Author conversations with UK, US and Australian military forces involved in the anti-ISIS air campaign. (strict controls in place to limit civilian casualties), available at: www.abc.net.au/news/2015-09-16/australian-fighter-jets-first-air-strikes-syria-us-military/6779104.

127 Author conversation with CENTCOM. The US government has also authorized amends (acknowledgement and condolence payments) for incidental civilian harm caused during its operations in Iraq and Syria. Department of Defense Press Briefing by Rear Adm. Kirby in the Pentagon Briefing Room, 14 October 2014, available at: www.defense.gov/News/Transcripts/Transcript-View/Article/606936 (amends for Syria); National Defense Authorization Act for Fiscal Year 2016, section 1211, available at: www.gpo.gov/fdsys/pkg/BILLS-114s1356enr/pdf/BILLS-114s1356enr.pdf (authorizing *ex gratia* payments for incidental damage, personal injury or death).

128 As of 2 February 2017, the United States has admitted to causing 199 civilian casualties in Iraq and Syria since the air campaign began in mid-2014, and is investigating allegations by NGOs and those reported in the media. See CENTCOM, *Combined Joint Task Force – Operation Inherent Resolve Monthly Civilian*

death and injuries, as well as the scale of physical destruction of cities – once most civilians have left – like Ramadi, Zumar and Sinjar in Iraq and Kobane in Syria, also highlight the challenges and costs of dislodging a group that embeds itself in homes and rigs cities with IEDs and booby traps.¹²⁹ Fighting in populated areas urgently necessitates creative thinking by military planners involved in the air campaign in Iraq and Syria in order to constantly learn and improve tactics to minimize civilian harm, including by vigorously cross-checking their data on civilian harm with external sources to ensure maximum effectiveness of operations and the stated intent to minimize civilian harm.¹³⁰

In Iraq, local ground forces backed by the coalition have yet to adopt some of the tools and trainings on civilian protection, and need urgent support to develop in order to minimize civilian harm.¹³¹ While computer-generated CDMs may be advanced for some forces, armed actors, in addition to adhering to IHL, should conduct BDAs that include civilian harm considerations and collect and analyze such data in a tracking cell to understand how tactics are impacting civilians and what mitigation measures should be undertaken. Such an effort would begin to

Casualty Report, 2 February 2017, available at: www.centcom.mil/MEDIA/PRESS-RELEASES/Press-Release-View/Article/1068742/combined-joint-task-force-operation-inherent-resolve-monthly-civilian-casualty/. As of 30 January 2017, Airwars – a transparency project monitoring the air campaign against ISIS and other groups and recording civilian harm in Iraq, Syria and Libya – had attributed over 2,300 deaths and injuries to the anti-ISIS coalition in Iraq and Syria, but it “cautions” on the number “given the significant challenges of casualty verification”. Civilian casualties attributed to Russian air strikes in Syria, supporting the Syrian regime from September 2015 to December 2016, number over 8,000. (See, generally, *Airwars.com*.) In Afghanistan as well, although the ISAF mandate ended in 2014, US forces in Afghanistan who are training Afghan forces, and who since June 2016 have been allowed to conduct air strikes against the Taliban in support of the Afghan security forces, must strictly adhere to guidance and policies to minimize civilian harm and prevent any recurrence of events like the October 2015 attack on the *Medécins Sans Frontières* hospital in Kunduz. A US military investigation found that US forces did not know they were firing at a medical facility, and that “a combination of human errors, compounded by process and technical errors” resulted in the attack. The investigation also found that certain personnel failed to adhere to ROE and violated the law of armed conflict. CENTCOM, “CENTCOM Releases Investigation into Doctors without Borders Trauma Facility”, 29 April 2016, available at: www.centcom.mil/news/press-release/april-29-centcom-releases-kunduz-investigation.

129 The author visited Zumar and several towns and villages in Nineveh governorate, and villages in Kirkuk governorate, in Iraq, and Kobane in Syria, in 2015. In 2016, the author interviewed civilians who fled Ramadi as Iraqi forces retook the city from ISIS. Sahr Muhammedally, “Retaking Mosul: ISIS and Human Shields”, *MENASource*, 16 March 2016, available at: www.atlanticcouncil.org/blogs/menasource/retaking-mosul-isis-and-human-shields; Tribune Writers, “Iraqi City Ramadi Once Home to 500,000 Now Lies in Ruins”, *Chicago Tribune*, 17 January 2016, available at: www.chicagotribune.com/news/nationworld/ct-ramadi-iraq-buildings-destroyed-20160117-story.html.

130 Prime Minister David Cameron, “PM Statement Responding to FAC Report on Military Operations in Syria”, 26 November 2015, available at www.gov.uk/government/speeches/pm-statement-responding-to-fac-report-on-military-operations-in-syria (“We have the Brimstone precision missile system, which enables us to strike accurately with minimal collateral damage”); Colonel Steve Warren, Operation Inherent Resolve Spokesperson, Department of Defense Press Briefing via Teleconference in Pentagon Briefing Room from Baghdad, Iraq, 28 October 2015, available at: www.defense.gov/News/News-Transcripts/Transcript-View/Article/626351/departement-of-defense-press-briefing-by-colonel-warren-via-teleconference-in-th (“We put a lot of energy into developing targets and we’ll continue to develop targets and refine them, and redevelop them and watch them and make sure that those targets meet our standards for minimizing destruction of civilian infrastructure and of course civilian casualties”).

131 Sahr Muhammedally, “Iraq: Learning Civilian Protection the Hard Way”, *Stability: International Journal of Security and Development*, Vol. 4, No. 1, 2015, available at: www.stabilityjournal.org/article/10.5334/sta.ge/.

inculcate a protection mindset amongst armed actors who are retaking territories from opposing groups and holding territory.

Adopting policies and tactics to minimize civilian harm needs leadership, as it plays a key role in how an armed actor sees its role in prosecuting a war in accordance with IHL, but also from a strategic lens. The Lieber Code, the first modern codification of the laws of war, told the armies of the United States of 1863 that “[m]ilitary necessity does not include any act of hostility which makes the return to peace unnecessarily difficult”.¹³² This advice is as applicable now as it was then. Military necessity that fails to prioritize civilian protection, especially in populated areas, will undermine success by making the return to peace more difficult. Armed actors need to adopt a protection mindset when fighting in populated areas, and adopt the tools and policies discussed in this article to minimize civilian harm. Focusing on tactical gains but not protecting civilians can result in a protracted war, with civilians continuing to pay the ultimate cost.

132 Francis Lieber, *Instructions for the Government of Armies of the United States in the Field*, General Order No. 100, 24 April 1863, Art. 16.