

II. Explosive weapons and the protection of civilians during the Russia–Ukraine and Israel– Hamas wars

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Protection of civilians in armed conflict is a basic element of international humanitarian law: civilians and all non-combatants must not be deliberately targeted. Yet, the use of heavy artillery, military aircraft, and small arms and light weapons (SALW) in armed conflict often results in large-scale loss of life and life-changing injuries, displacement of civilian populations, and destruction of infrastructure and institutions. Anti-personnel mines (APMs), cluster munitions and improvised explosive devices (IEDs) have also been widely used in conflicts, killing and injuring thousands of civilians every year, both during active hostilities and after they end (see section I of this chapter). The modern battlefield includes new military strategies, remote and hybrid forms of warfare, and the uses of armed uncrewed aerial vehicles (UAVs) and proxy fighters, all of which raise new ethical and moral concerns and challenges when seeking to protect civilians.¹

These issues were all brought to the fore by two of the most violent and internationally divisive armed conflicts fought in 2023: the Russia–Ukraine war (which started in 2014) and the latest Israel–Hamas war (which started in October 2023, but is rooted in the long-running Israeli–Palestinian conflict). Through the fog of allegations and counter-allegations, clear and concerning misuse of explosive weapons and other violations of international humanitarian law can be identified in the conduct of both wars.

This section reviews the weapons and tactics used in these two wars. It also discusses the extent to which parties to the conflicts complied with the rules and principles—or norms—on protection of civilians and the international efforts to enforce those norms and draws some conclusions about their status. The section begins by outlining the rules and principles on the protection of civilians in armed conflict.

Rules and principles on the protection of civilians in armed conflict

During an armed conflict, all parties—both state and non-state—are required to adhere to the rules and principles of international humanitarian law, including those of humanity, distinction, proportionality, military necessity

¹ E.g. MacLachlan, K., ‘Protection of civilians: A constant in the changing security environment’, NATO Review, 17 June 2022; and Mahanty, D., ‘Five ways to protect civilians in contemporary armed conflict’, SIPRI Commentary, 29 Aug. 2023. On ethical considerations of modern artificial intelligence warfare see also chapter 11, section I, in this volume.

and precaution.² The principle of distinction, for example, draws a line between civilians and combatants, prohibiting any attack that directly targets civilians or civilian objects. These rules are built around the four 1949 Geneva Conventions and their two additional protocols adopted in 1977, supplemented by rulings of international courts and developments by other international bodies.³ The basic core of the rules contained in these treaties has been considered as customary international law, which means that it is binding on every state and actor regardless of whether they have ratified or acceded to the specific treaties.⁴

Other treaties prohibit the use of specific weapons and military tactics and protect certain categories of people and goods. One of the main multilateral treaties designed for regulating weapons—the 1981 Certain Conventional Weapons (CCW) Convention—focuses on weapons that are considered to cause unnecessary or unjustifiable suffering to combatants or to affect civilians indiscriminately.⁵ The scope of the convention and its five protocols extends to landmines, incendiary weapons and explosive remnants of war (ERW), among other weapon types of humanitarian concern (see section I).

However, the CCW regime has three significant weaknesses. First, even though it is supposed to evolve with the development of military technology and tactics, its decision-making is based on consensus, making it almost impossible to update the convention or add new protocols.⁶ Second, being based on the balance of the above-mentioned principles (including military necessity), the CCW Convention almost never imposes a general ban on any type of weapon as long as it can be used according to international

²Diakonia International Humanitarian Law Centre, ‘Basic principles of IHL’, [n.d.]; and International Committee of the Red Cross (ICRC), International Humanitarian Law Databases, <<https://ihl-databases.icrc.org/en>>.

³For a summary and other details of the Geneva Convention (IV) Relative to the Protection of Civilian Persons in Time of War, Protocol I Relating to Protection of Victims of International Armed Conflicts and Protocol II Relating to the Protection of Victims of Non-international Armed Conflicts, including lists of their states parties, see annex A, section I, in this volume.

⁴On the customary nature of these rules see e.g. International Court of Justice (ICJ), *Legality of the Threat of Nuclear Weapons*, Advisory opinion (ICJ: The Hague, 8 July 1996), para. 79; and International Court of Justice (ICJ), *Case Concerning Military and Paramilitary Activities in and against Nicaragua*, Judgment (ICJ: The Hague, 27 June 1986), paras 218–19.

⁵For a summary and other details of the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effect (CCW Convention) see annex A, section I, in this volume.

⁶On the issue of consensus see Docherty, B., ‘Countering consensus through humanitarian disarmament: Incendiary weapons and killer robots’, Human Rights Watch, 21 Dec. 2021. See also section I of this chapter.

humanitarian law.⁷ Third, it lacks effective verification and enforcement mechanisms.⁸

These weaknesses in the CCW Convention and the growing influence of the concept of humanitarian disarmament—a people-centred approach to disarmament that focuses on preventing and remediating human suffering and environmental harm—led to APMs and cluster munitions being banned through treaties agreed by states outside the CCW framework. These two conventions—the 1997 APM Convention and the 2008 Convention on Cluster Munitions (CCM)—are unique on at least two important grounds: they impose a general and comprehensive ban that goes beyond the mere use of these weapons; and they apply in every circumstance, not only during armed conflict.⁹ In the case of the use of explosive weapons in populated areas (EWIPA), a political declaration agreed in 2022—also outside the CCW framework—aims to promote stronger standards for the protection of civilians and commits endorsing states to implement these standards through changes to their national policy and practice.¹⁰ Finally, several other treaties have a humanitarian objective, especially those related to weapons of mass destruction (WMD).¹¹

As one scholar has noted, international humanitarian law and the conventions against inhumane weapons are a ‘conceptual guardrail against cognitive dehumanization, a thin red line to help ordinary people distinguish between “civilized” violence and outright barbarity’.¹² But despite these guardrails, the reality is that civilians continue to suffer most from the consequences of armed violence.

⁷ E.g. in relation to incendiary weapons see Human Rights Watch and Harvard Law School International Human Rights Clinic (IHRC), ‘Incendiary weapons: Recent developments and use’, May 2023.

⁸ Mantilla, G., ‘Deflective cooperation: Social pressure and forum management in cold war conventional arms control’, *International Organization*, vol. 77, no. 3 (summer 2023).

⁹ For summaries and other details of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction (APM Convention) and the CCM see annex A, section I, in this volume.

¹⁰ Political Declaration on Strengthening the Protection of Civilians from the Humanitarian Consequences Arising from the Use of Explosive Weapons in Populated Areas, Irish Department of Foreign Affairs, 17 June 2022. On developments in 2023 related to the CCW Convention, the APM Convention, the CCM and the Political Declaration on EWIPA see section I of this chapter.

¹¹ These treaties include the 1954 Convention for the Protection of Cultural Property in the Event of Armed Conflict, plus its two protocols; the 1972 Biological and Toxin Weapons Convention (BWC); the 1993 Chemical Weapons Convention (CWC); the 2000 Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict; and the 2017 Treaty on the Prohibition of Nuclear Weapons (TPNW). For summaries and other details of the BWC, CWC and TPNW see annex A, section I, in this volume. On developments in 2023 related to the CWC and the BWC see chapter 9 in this volume; and on those related to the TPNW see chapter 8, section II, in this volume.

¹² Carpenter, C., ‘The laws of war matter—Now more than ever’, *World Politics Review*, 7 Nov. 2023.

Weapons used in the Russia–Ukraine war

The Russia–Ukraine war, which began in February 2014 with the Russian Federation’s invasion and subsequent annexation of Crimea, was transformed by its full-scale invasion of 24 February 2022. Throughout most of 2023, and despite a summer counteroffensive by Ukraine, the war was widely characterized as a grinding war of attrition, with casualties, destruction and collateral damage, and population displacement reaching proportions not seen in Europe since World War II.¹³ Russia reportedly launched about 7400 missiles and 3700 Shahed one-way attack UAVs at targets in Ukraine in 2022–23.¹⁴

Exact figures for the number of war fatalities, both military and civilian, are difficult to verify and confirm. According to the Armed Conflict Location and Event Data Project (ACLED), there were an estimated 64 320 conflict-related fatalities (civilian and military) in Ukraine between 24 February 2022 and 31 December 2023: 33 189 in battles; 29 746 in explosions or remote violence; 1378 in violence against civilians; and 7 in protests or strategic developments.¹⁵ According to separate data collected by the Office of the United Nations High Commissioner for Human Rights (OHCHR), 10 191 civilians were killed in Ukraine during the same period.¹⁶ These may be low estimates of fatalities given that other public sources suggest much higher casualty rates. In the same period, ACLED recorded 362 conflict-related fatalities on Russian territory: 166 in explosions or remote violence; 88 in battles; 60 in violence against civilians; and 48 in strategic developments.¹⁷ The number of refugees from the conflict stood at about 6.4 million as of 31 December 2023, down from a peak of over 8.2 million in May 2023.¹⁸

The Independent International Commission of Inquiry (COI) on Ukraine—established by the UN Human Rights Council in March 2022—has documented multiple indiscriminate attacks with conventional weapons

¹³ ‘Why Ukraine may be choosing a war of attrition’, *The Economist*, 3 Aug. 2023; Freedman, L., ‘Attrition before breakthrough’, Comment is Freed, 8 July 2023; and Watling J. and Reynolds, N., *Meatgrinder: Russian Tactics in the Second Year of its Invasion of Ukraine* (Royal United Services Institute: London, 19 May 2023). On developments in the war in 2023 see also chapter 1 and chapter 2, section I, in this volume.

¹⁴ ‘Russia has fired 7,400 missiles, 3,700 Shahed drones in war so far, Kyiv says’, Reuters, 21 Dec. 2023. On the use of missiles in the war see section III of this chapter.

¹⁵ ACLED Dashboard, accessed 8 Feb. 2024. Estimated fatality figures are collated from 4 ACLED event types: Battles; explosions/remote violence; protests, riots and strategic developments; and violence against civilians. See Armed Conflict Location and Event Data Project (ACLED), ‘ACLED definitions of political violence and protest’, 11 Apr. 2019.

¹⁶ Office of the UN High Commissioner for Human Rights (OHCHR), ‘Ukraine: Protection of civilians in armed conflict—December 2023 update’, 15 Jan. 2024.

¹⁷ ACLED Dashboard (note 15).

¹⁸ UN High Commissioner for Refugees (UNHCR), ‘Ukraine refugee situation’, 31 Dec. 2023.

(mainly by Russian armed forces, as discussed below).¹⁹ It has also concluded that Russian authorities have committed the war crimes of wilful killing, torture, rape and other sexual violence, and the deportation of children to Russia. War crimes are also considered serious violations of international humanitarian law.

Explosive weapons in populated areas

Throughout the armed conflict, military strikes using explosive weapons with wide-area effects have been made on major Ukrainian towns and cities, including in areas far from the frontlines. They have been the main cause of civilian deaths, injuries and destruction in the war. According to Action on Armed Violence (AOAV), a non-governmental organization (NGO), the number of civilian casualties from explosive violence since the full-scale invasion on 24 February 2022 had reached 18 216 by 20 December 2023, including 5337 killed (equivalent to 52 per cent of the total civilian fatalities recorded by the OHCHR) and 12 879 injured. Of the civilian casualties, 95 per cent (17 299) occurred in populated areas.²⁰ Such attacks have damaged or destroyed hospitals, schools, critical infrastructure and thousands of residential buildings. In cities particularly affected by the fighting, such as Chernihiv, Izyum, Kharkiv and Mariupol, entire neighbourhoods have been destroyed by frequent shelling and air strikes. Other such attacks have hit civilian objects in cities and towns far from the frontlines.

The COI has concluded that Russian armed forces committed multiple indiscriminate and disproportionate attacks using EWIPA, in violation of international humanitarian law. Even where a military target could be identified in the populated area of the attack, the explosive weapons deployed were unguided, inaccurate or designed to strike a wide area. The COI identified three types of weapon used by Russian forces that were so powerful that their effects could not be limited, or were inaccurate or designed to cover a large area: long-range anti-ship Kh-22 and Kh-32 missiles launched from aircraft in a land-attack role; air-dropped unguided high-explosive bombs; and cluster munitions (see below) and multiple rocket launcher (MRL) systems.²¹ In addition, the COI found that the large-scale attacks with hundreds of long-range missiles and UAVs equipped with explosives launched by Russian armed forces against Ukrainian energy infrastructure between 10 October 2022 and 26 January 2023 were widespread and systematic and may also

¹⁹ United Nations, General Assembly, Human Rights Council, Independent International Commission of Inquiry on Ukraine, Conference room paper, A/HRC/52/CRP.4, 29 Aug. 2023; and United Nations, General Assembly, Report of the Independent International Commission of Inquiry on Ukraine, A/78/540, 19 Oct. 2023.

²⁰ Action on Armed Violence (AOAV), 'Ukraine: AOAV explosive violence data on harm to civilians', 20 Dec. 2023.

²¹ United Nations, A/HRC/52/CRP.4 (note 19), paras 126–246.

amount to crimes against humanity.²² The targeting of energy infrastructure in war is not new: it occurred for example in the 1990–91 Gulf War and during the 2003 invasion of Iraq.²³

The COI has also documented the limited use of cluster munitions and rocket-delivered APMs in attacks on populated areas under the control of Russian armed forces (as discussed further below). While unable to conclusively attribute responsibility for those incidents, the COI determined that they were probably launched by Ukrainian armed forces. Some of the attacks on Izyum were confirmed as indiscriminate and therefore in violation of international humanitarian law.²⁴

Questions of EWIPA and violations of international humanitarian law in the conflict are dominated by the familiar use of artillery and missiles. However, in a significant change in warfare tactics and technology, both sides are also making intensive use of armed UAVs.²⁵ Both sides are seeking to increase domestic development and manufacture of UAVs, and both are considering future deployment of advanced UAVs and other forms of autonomous and electronic warfare.²⁶ Such weapon systems may raise new humanitarian concerns despite their potential improved accuracy. Ukraine in 2023 launched increasingly frequent UAV and missile attacks on military targets far beyond the frontlines, in southern Russia, Moscow and Russia-annexed Crimea. These attacks, while low-level compared to Russian strikes on Ukrainian cities, appeared to be escalating.²⁷

Cluster munitions

Ukraine was the only country in the world where cluster munitions were used intensively in 2022–23.²⁸ Neither Russia nor Ukraine is party to the Convention on Cluster Munitions, but the indiscriminate effects of these

²² United Nations, A/HRC/52/CRP4 (note 19), paras 267–82. On the effect of these attacks on Ukrainian nuclear facilities see chapter 8, section IV, in this volume.

²³ E.g. Human Rights Watch, *Off Target: The Conduct of the War and Civilian Casualties in Iraq* (Human Rights Watch: New York, 2003), pp. 42–45; and Griffith, T. E., *Strategic Attack of National Electrical Systems* (Air University Press: Maxwell Air Force Base, AL, Oct. 1994).

²⁴ United Nations, A/HRC/52/CRP4 (note 19), paras 247–66.

²⁵ Franke, U., 'Drones in Ukraine and beyond: Everything you need to know', European Council on Foreign Relations, 11 Aug. 2023; and Gettinger, D., 'One way attack: How loitering munitions are shaping conflict', *Bulletin of the Atomic Scientists*, 5 June 2023.

²⁶ Hudson, J. and Khudov, K., 'The war in Ukraine is spurring a revolution in drone warfare using AI', *Washington Post*, 26 July 2023; Saballa, J., 'After "army of drones" Ukraine now wants "army of robots"', *Defense Post*, 11 Aug. 2023; and 'Ukraine plans to ramp up monthly drone output by year-end—Minister', Reuters, 25 Oct. 2023.

²⁷ 'Can Ukrainian drone attacks hurt Russia?', *The Economist*, 5 Jan. 2024; and Frederick, B., Cozad, M. and Stark, A., *Understanding the Risk of Escalation in the War in Ukraine* (RAND Corp.: Santa Monica, CA, Sep. 2023).

²⁸ On the more limited use recorded in Myanmar and Syria during that period see section I of this chapter.

weapons could amount to a breach of general international humanitarian law.²⁹

The use of cluster munitions by both Russia and Ukraine has been documented by NGOs, the media and the COI. The regular use of cluster munitions by Russian forces in the war, either launched from the ground (in missiles, rockets and artillery projectiles) or delivered by aircraft, has resulted in civilian casualties, damaged civilian infrastructure and contaminated agricultural land—as has the seemingly less frequent use of cluster munitions by Ukrainian forces.³⁰ Despite this evidence, Russia has generally denied using cluster munitions in Ukraine but threatened to do so in response to Ukrainian use of such weapons.³¹ Ukraine denied some allegations of use and in response to others argued that it strictly adhered to the norms of international humanitarian law.³² With Ukrainian officials publicly seeking new supplies of cluster munitions, and the controversial US transfer of cluster munitions to Ukraine in July 2023 (discussed below), there was also an implicit admission of use.³³

There were at least 916 casualties in Ukraine from cluster munitions during the period from February 2022 to mid 2023: 890 casualties (294 killed and 596 injured) from cluster munition attacks and 26 casualties from cluster munition remnants, including 23 civilians and 3 clearance personnel.³⁴ As a result of these Ukrainian casualties, in 2022 the Cluster Munition Monitor recorded the highest annual global total of cluster munition casualties (1172) since it first began reporting in 2010. In addition, Ukraine overtook Syria (which repeatedly experienced the highest annual casualty total from 2012 to

²⁹ Boothby, W. H., ‘Cluster munitions and the Ukraine war’, *Articles of War*, US Military Academy, Lieber Institute, 28 Feb. 2022.

³⁰ Cluster Munition Coalition (CMC), *Cluster Munition Monitor 2023* (International Campaign to Ban Landmines—CMC: Geneva, Aug. 2023), pp. 13–15; Human Rights Watch, ‘Ukraine: Civilian deaths from cluster munitions’, 6 July 2023; Human Rights Watch, ‘Cluster munition use in Russia–Ukraine war’, Briefing paper, June 2023; Human Rights Watch, *Intense and Lasting Harm: Cluster Munition Attacks in Ukraine* (Human Rights Watch: New York, 11 May 2022); Gibbons-Neff, T. and Ismay, J., ‘To push back Russians, Ukrainians hit a village with cluster munitions’, *New York Times*, 18 Apr. 2022; and United Nations, A/HRC/52/CRP.4 (note 19), pp. 42–48.

³¹ ‘Putin says Russia has stockpiled cluster bombs and will use them in Ukraine if it has to’, Reuters, 16 July 2023; and ‘Russia says it may use similar weapons if US supplies cluster bombs to Ukraine’, Reuters, 11 July 2023.

³² Gibbons-Neff and Ismay (note 30); and Makedonskyy, K., General Staff of the Ukrainian Armed Forces, ‘Regarding the use of cluster munitions by the Ukrainian armed forces’, Letter to Human Rights Watch, 22 June 2023 (in Ukrainian).

³³ E.g. Ukraine’s deputy prime minister, Olexandr Kubrakov, and foreign minister, Dmytro Kuleba, appealed for Ukraine to be supplied with cluster munitions during the Munich Security Conference, ‘Spotlight: Ukraine’, 17 Feb. 2023. See also ‘NATO secretary general rejects Ukraine’s demand for cluster munitions’, *Ukrainska Pravda*, 18 Feb. 2023; and Bertrand, N., Marquardt, A. and Cohen, Z., ‘Biden administration weighs Ukrainian requests for access to US stockpile of controversial cluster munitions’, CNN, 8 Dec. 2022.

³⁴ Cluster Munition Coalition (note 30), pp. 48–49.

2021) as the country experiencing the highest annual level of casualties from cluster munitions.³⁵

The use of cluster munitions in Ukraine has been widely condemned by multiple states in national or joint statements in UN bodies and by the European Union (EU), the secretary-general of the North Atlantic Treaty Organization (NATO), the UN high commissioner for human rights, UN human rights special rapporteurs, experts and NGOs.³⁶ Many of the statements from Western governments and NATO focused solely on Russian use.³⁷

Although the United States (not a CCM party) expressed concern at Russia's use of cluster munitions, in July 2023 it began transferring to Ukraine an unspecified quantity of its stockpiled Dual-purpose Improved Conventional Munitions (DPICM), a 155-millimetre artillery-delivered cluster munition.³⁸ The US administration argued that the cluster munitions would sustain Ukraine's ability to defend military gains and execute the ongoing counteroffensive, especially given acknowledged shortages of ammunition.³⁹ Ukraine's minister of defence, Oleksiy Reznikov, welcomed the transfer and outlined five 'key principles' that would guide Ukraine's use of the cluster munitions: to only use the weapons in Ukrainian territory; to use them only in non-urban areas against Russian military forces; to keep records of use; to prioritize those areas for post-conflict clearance; and to report to partners.⁴⁰ US officials subsequently confirmed that the US-supplied cluster bombs had been deployed against Russian military targets.⁴¹

Despite these risk-mitigation commitments, the US transfer attracted widespread debate and some criticism both domestically within the USA and

³⁵ Cluster Munition Coalition (note 30), pp. 41–42.

³⁶ E.g. Bachelet, M., UN high commissioner for human rights, Statement on Ukraine, UN Human Rights Council, 30 Mar. 2022.

³⁷ See e.g. Jean-Pierre, K., White House press secretary, and Kirby, J., US National Security Council coordinator for strategic communications, Press briefing, White House, 7 July 2023; Wallace, B., Secretary of state for defence, Oral statement on war in Ukraine, British House of Commons, 11 May 2023; and Stoltenberg, NATO secretary-general, Press conference following extraordinary meeting of NATO ministers of foreign affairs, 4 Mar. 2022.

³⁸ Kahl, C., US under secretary of defense for policy, Press briefing, US Department of Defense, 7 July 2023; and US Department of Defense, 'Biden administration announces additional security assistance for Ukraine', Press release, 7 July 2023.

³⁹ On arguments in support of the transfer see also Zeigler, S., 'Why Biden was justified to send cluster munitions to Ukraine', *Lawfare*, 13 Aug. 2023; and Watling, J. and Bronk, J., 'Giving Ukraine cluster munitions is necessary, legal and morally justified', Royal United Services Institute (RUSI), 10 July 2023.

⁴⁰ Reznikov, O. (@oleksiireznikov), Twitter, 7 July 2023, <<https://twitter.com/oleksiireznikov/status/1677410470108471298>>.

⁴¹ 'Ukraine has begun deploying cluster bombs against Russian forces, says White House', *The Guardian*, 21 July 2023; and Jakes, L. and Schmitt, E., 'Ukrainians embrace cluster munitions, but are they helping?', *New York Times*, 7 Sep. 2023.

internationally.⁴² The criticism centred on the long-term humanitarian risk to civilians as a result of the failure rate—that is, the number of submunitions that fail to detonate on impact or after a preset time delay and thus become ERW—and the wider impact on the norm against cluster munition use.⁴³ Although officials of the US Department of Defense have claimed a failure rate of the DPICM submunitions of less than 2.35 per cent (based on classified testing data), historic data revealed much higher failure rates of 6–14 per cent, and often higher in operational conditions.⁴⁴ States parties to the CCM undertake never under any circumstances to ‘Assist, encourage or induce anyone to engage in any activity prohibited to a State Party under this Convention’ (Article 1) and are meant to ‘discourage, in every way possible the use, development, production, stockpiling and transfer of cluster munitions and [call] upon those who continue to do so to cease now’ (Action 11 of the Lausanne Action Plan).⁴⁵ However, several CCM states parties either indicated support for the US decision or refrained from criticizing it, even while expressing general opposition to the use of cluster munitions.⁴⁶

Other countries may also have supplied Ukraine with cluster munitions during 2022–23. In June 2023, for example, the chairman of the US Joint Chiefs of Staff, General Mark Milley, indicated that unnamed ‘Other European countries’ had recently provided cluster munitions to Ukraine.⁴⁷ If the transferring state were a party to the CCM, it would have been a breach of the convention. However, by the end of 2023 the only additional transfers of

⁴² E.g. Singh, K. and Roulette, J., ‘Congressional Democrats raise concerns on cluster bombs’, Reuters, 9 July 2023; ‘North Korea condemns US plan to send cluster munitions to Ukraine as “criminal”’, Reuters, 11 July 2023; Glucroft, W. N., ‘Germany keeps distance from US cluster bombs for Ukraine’, Deutsche Welle, 12 July 2023; ‘Spain says cluster bombs should not be sent to Ukraine’, Reuters, 8 July 2023; and Cluster Munitions Coalition, ‘Campaign shocked by US decision to transfer banned cluster munitions to Ukraine’, 7 July 2023.

⁴³ E.g. Docherty, B., ‘US cluster munition transfer to Ukraine ignores history of civilian harm’, Just Security, 14 July 2023; and Kimball, D. G., ‘Why President Biden should not transfer prohibited cluster bombs to Ukraine’, Just Security, 3 July 2023.

⁴⁴ Ismay, J., ‘Cluster weapons US is sending Ukraine often fail to detonate’, *New York Times*, 7 July 2023. See also Norwegian People’s Aid (NPA), ‘NPA’s reactions to the US transfer of cluster munitions to Ukraine’, [n.d.]; and Kerr, P. K. and Feickert, A., *Cluster Munitions: Background and Issues for Congress*, Congressional Research Service (CRS), Report for Congress RS22907 (US Congress, CRS: Washington, DC, 25 Oct. 2023), pp. 2, 9–11.

⁴⁵ The Lausanne Action Plan, which lists concrete steps to implement the CCM in the period 2022–26, was adopted at the 2nd CCM Review Conference, in Sep. 2021. 2nd CCM Review Conference, Final report, CCM/CONF/2021/6, 6 Oct. 2021, annex II, ‘Lausanne Action Plan’.

⁴⁶ E.g. Japan not opposed to US plan to supply cluster munitions to Ukraine’, *Kyodo News*, 10 July 2023; AP, ‘US decision to send cluster munitions to Ukraine could put Canada, others on the spot’, *CBC*, 7 July 2023; and AFP, ‘Germany should not “block” US sending cluster munitions to Ukraine: President’, *Radio Free Europe/Radio Liberty*, 9 July 2023. On the ethical nature of the transfer see also Watling and Bronk (note 39).

⁴⁷ Roque, A., ‘White House weighing controversial cluster munitions deliveries to Ukraine’, *Breaking Defense*, 30 June 2023.

cluster munitions to Ukraine for which there was publicly available evidence were by Türkiye (not a CCM party).⁴⁸

Anti-personnel mines

The deployment of new APMs by states is now extremely rare—only Myanmar, Russia and Ukraine reportedly used APMs during 2021–22 and the first half of 2023 (see section I). Of those three states, only Ukraine is party to the APM Convention.

It is unprecedented for a country that is not a party to the treaty, such as Russia, to use APMs on the territory of a state party such as Ukraine, but Human Rights Watch has documented the use by Russian forces of at least 13 types of APM in 11 of Ukraine's 27 regions since 24 February 2022.⁴⁹ This extensive deployment of APMs as well as emplacement by Russian forces of numerous victim-activated booby traps is reported to have turned Ukraine into the most heavily mined country in the world.⁵⁰ With roughly 30 per cent of the country directly affected by the conflict, contamination with ERW is likely to be extensive, with major impacts on food security.⁵¹ During the 20-month period from 24 February 2022 to 31 October 2023, at least 260 civilians were killed and over 570 injured during more than 560 incidents involving APMs or ERW left behind by the fighting in Ukraine.⁵² The World Bank estimates the cost of demining Ukraine to be \$37.6 billion.⁵³

In a potential violation of international humanitarian law and Ukraine's own treaty obligations not to use the weapons, Human Rights Watch alleged in early 2023 that Ukrainian forces had fired 'thousands' of APMs into Russian-occupied territory 'in and around' the eastern Ukrainian city of Izyum while it was occupied by Russian forces in April–September 2022.⁵⁴

⁴⁸ Detsch, J. and Gramer, R., 'Turkey is sending cold war-era cluster bombs to Ukraine', *Foreign Policy*, 10 Jan. 2023; Soylyu, R., 'Russia–Ukraine war: Turkey denies supplying Kyiv with cluster munitions', *Middle East Eye*, 14 Jan. 2023; 'Ukrainian armed forces use Turkish-made M483A1 cluster munitions', *Sundries*, 18 May 2023; and Skove, S., 'Documents confirm that Ukraine is importing Turkish cluster munitions', *Defense One*, 26 Oct. 2023.

⁴⁹ Human Rights Watch, 'Landmine use in Ukraine', Briefing paper, June 2023; Human Rights Watch, 'Landmine use in Ukraine', Background briefing, June 2022; and International Campaign to Ban Landmines (ICBL), *Landmine Monitor 2023* (ICBL–Cluster Munition Coalition: Geneva, Nov. 2023), pp. 1, 8–14.

⁵⁰ Sampson, E. and Granados, S., 'Ukraine is now the most mined country. It will take decades to make safe', *Washington Post*, 22 July 2023.

⁵¹ Boffey, D., 'Ukraine desperate for help clearing mines, says defence minister', *The Guardian*, 13 Aug. 2023; and Riquier, M. and Garbino, H., 'War in the breadbasket: Landmines and food security in Ukraine', *SIPRI Commentary*, 16 Nov. 2023.

⁵² 'More than 260 civilians killed after stepping on mines, explosives—Ukraine', *Reuters*, 1 Nov. 2023.

⁵³ World Bank, Ukrainian Government, European Union and United Nations, *Ukraine Rapid Damage and Needs Assessment February 2022–February 2023* (World Bank: Washington, DC, Mar. 2023), pp. 122–25. See also Osmolovska, J., *Walking on Fire: De-mining in Ukraine* (Globsec: Kyiv, Apr. 2023); and United Nations, 'Demining Ukraine: Bringing lifesaving expertise back home', *UN News*, 8 July 2023.

⁵⁴ Human Rights Watch, 'Ukraine: Banned landmines harm civilians', 31 Jan. 2023.

The COI also concluded that it is likely that the APMs in Izyum were deployed by Ukrainian armed forces.⁵⁵ In June 2023 Ukraine made a commitment to thoroughly investigate its reported use of APMs and report back to the forums of the APM Convention in a transparent manner.⁵⁶ Nonetheless, Mine Action Review, an independent civil society monitoring project, described it as the most serious violation of the APM Convention in its 25-year history, and noted that the lack of a robust response from the overwhelming majority of the convention's states parties threatened to weaken the international norm prohibiting the use of APMs under any circumstances by any state party.⁵⁷

Incendiary weapons

Incendiary weapons have been repeatedly used in the Russia–Ukraine war.⁵⁸ Although both Russia and Ukraine are parties to Protocol III of the CCW Convention, it does not ban incendiary weapons as such, nor does it prohibit use of ground-launched incendiary weapons in concentrations of civilians.

Human Rights Watch reviewed visual evidence showing at least 82 attacks using surface-fired incendiary weapons between February 2022 and April 2023 and positively identified remnants of unguided, ground-launched 9M22S incendiary rockets (which are used by the Grad MRL) at some of the affected locations. However, Human Rights Watch was unable to attribute responsibility for these attacks, as both Russia and Ukraine possess this type of incendiary weapon.⁵⁹ This type of incendiary weapon was previously used in eastern Ukraine in 2014 and in Syria in 2013–19.

Weapons used in the Israel– Hamas war

The Israeli–Palestinian conflict has a political context that goes back at least to the 1917 Balfour Declaration. The history of Israel's occupation of Gaza, the Golan Heights and the West Bank (territories it captured in the 1967

⁵⁵ United Nations, A/HRC/52/CRP4 (note 19), p. 49.

⁵⁶ Human Rights Watch, 'Ukraine promises inquiry into landmine use', 30 June 2023; and APM Convention Intersessional Meeting, Statement by Ukraine, 21 June 2023. During the 21st Meeting of States Parties to the APM Convention, Ukraine also reported on its progresses to destroy its own stockpiles. See section I of this chapter.

⁵⁷ Mine Action Review, *Clearing the Mines 2023* (Norwegian People's Aid: Oslo, 6 Nov. 2023), pp. 1, 3, 359–76. On the reported production and ongoing use of APMs by the Ukrainian armed forces see Grynspan, E., 'Dans le Donbass, les soldats ukrainiens en panne de munitions' [In Donbass, Ukrainian soldiers run out of ammunition], *Le Monde*, 14 Dec. 2023.

⁵⁸ See e.g. 'White phosphorus munitions fired in eastern Ukraine: AFP', France 24, 14 Mar. 2023; 'Burning munitions cascade down on Ukrainian steel plant, video shows', Reuters, 15 May 2022; and Ott, H., 'What is white phosphorous, and what does it mean that Russia may be using it in Ukraine?', CBS News, 25 Mar. 2022.

⁵⁹ United Nations, General Assembly, First Committee, Joint civil society statement on incendiary weapons, Human Rights Watch, 18 Oct. 2022; and Human Rights Watch and Harvard Law School (note 7).

Arab–Israeli War) is well known but contested.⁶⁰ Nonetheless, several United Nations Security Council resolutions have requested the withdrawal of Israeli forces from the territories occupied in 1967.⁶¹ While Israel withdrew from Gaza in 2005, it maintained almost complete control of its borders and economy. In 2007, as a result of an intra-Palestinian dispute, Gaza came to be ruled separately from other Palestinian-administered territories by Hamas—an armed nationalist and Islamist movement.⁶² Hamas had an estimated 15 000–30 000 fighters in its military wing by October 2023 and operated a network of underground tunnels across Gaza.⁶³

Israel and Hamas fought four wars in Gaza between 2008 and 2021.⁶⁴ Over half of the victims between 24 January 2008 and 30 September 2023 in the conflict as a whole—including Gaza, the West Bank and Israel—have been civilians. According to casualty data of the UN Office for the Coordination of Humanitarian Affairs (OCHA), 177 (57 per cent) of the 308 Israeli fatalities were civilians, and at least 3808 (59 per cent) of the 6413 Palestinian fatalities were civilians (with the victim status of another 1582 of those fatalities disputed).⁶⁵ The asymmetric nature of the conflict is highlighted by the fact that Palestinians accounted for 95 per cent of the total fatalities.

On 7 October 2023 the conflict escalated again as Hamas led the deadliest Palestinian militant attack on Israel to date, with Israel subsequently launching its heaviest-ever air strikes on Gaza and a ground invasion in response.⁶⁶ Like much else in this conflict, casualty data is contested, being provided by officials from the respective sides. More than 1000 Israeli civilians and more than 350 Israeli soldiers and police were killed, including 260 civilians at a music festival in the 7 October attack.⁶⁷ In addition, around 240 Israeli soldiers and civilians, including 30 children, were taken as hostages to Gaza.⁶⁸

⁶⁰ E.g. Shlaim, A., *The Iron Wall: Israel and the Arab World* (W. W. Norton: New York, 2014); Thrall, N., *The Only Language They Understand: Forcing Compromise in Israel and Palestine* (Metropolitan Books: New York, 2017); and Anziska, S., *Preventing Palestine: A Political History from Camp David to Oslo* (Princeton University Press: Princeton, NJ, 2018).

⁶¹ E.g. UN Security Council resolutions 242, 22 Nov. 1967; and 2334, 23 Dec. 2016.

⁶² Hamas is designated a terrorist group by several states, including the USA, the UK and the EU. See Robinson, K., 'What is Hamas?', Background, Council on Foreign Relations, 31 Oct. 2023.

⁶³ Gambrell, J., 'A possible Israeli ground war looms in Gaza. What weapons are wielded by those involved?', AP, 12 Oct. 2023; and 'What is happening in Israel and Gaza, and what is Hamas?', BBC, 6 Nov. 2023.

⁶⁴ Israel and Hamas fought for 23 days in 2008–2009; 8 days in 2012; 50 days in 2014; and 11 days in 2021.

⁶⁵ UN Office for the Coordination of Humanitarian Affairs (OCHA), Data on casualties, accessed 6 Nov. 2023.

⁶⁶ For a broader discussion of the war and its implications see chapter 1 and chapter 2, section I, in this volume.

⁶⁷ McKernan, B., 'Israel and Hamas at war rafter surprise attacks from Gaza Strip', *The Guardian*, 7 Oct. 2023; and 'Israel revises death toll from Oct. 7 Hamas assault, dropping it from 1,400 to 1,200', *Times of Israel*, 11 Nov. 2023.

⁶⁸ Vinograd, C. and Kershner, I., 'Israel's attackers took about 240 hostages. Here's what to know about them', *New York Times*, 20 Nov. 2023.

Within Gaza, as of 31 December 2023 more than 22 000 Palestinians had been killed in the ensuing strikes or ground operations by Israel, two-thirds of them women and children.⁶⁹ Israel claimed in early December that 5000 were Hamas combatants, but acknowledged that at least 10 000 civilians had also been killed.⁷⁰ By the end of 2023 none of these figures had been independently verified. While fatality figures from the Hamas-run Ministry of Health in Gaza are questioned by Israel, they are generally regarded as accurate.⁷¹ As of 31 December 2023, 142 UN relief workers had also been killed—making it the deadliest conflict ever for the UN in such a short period of time—and at least 77 journalists and media workers had been killed, compared to 68 killed globally in 2022.⁷²

Weapons and tactics used by Hamas

The unprecedented assault by Hamas on Israel began with the launching of about 2200 rockets—about 25 per cent of Hamas’s estimated rocket arsenal—against Israel within a span of 20 minutes, killing at least five people.⁷³ Most of the rockets were reportedly domestically produced in small workshops with technical assistance and finance from Iran and Hezbollah.⁷⁴ Armed UAVs were used to disable Israeli observation posts and also to attack tanks and naval vessels.⁷⁵ Simultaneously, around 3000 Hamas fighters armed with SALW broke through or went over or around the perimeter fence surrounding Gaza using an assortment of vehicles, including paragliders and amphibious landing craft.⁷⁶ Civilians were deliberately targeted in neighbouring Israeli communities and military bases were also attacked.

⁶⁹ UN Office for the Coordination of Humanitarian Affairs (OCHA), ‘Hostilities in the Gaza Strip and Israel’, Flash Update no. 83, 3 Jan. 2024.

⁷⁰ Bush, D., ‘Israel says it killed 5,000 fighters in Gaza war on Hamas’, *Newsweek*, 4 Dec. 2023.

⁷¹ Grim, R. and Thakker, P., ‘Biden’s conspiracy theory about Gaza casualty numbers unravels upon inspection’, *The Intercept*, 31 Oct. 2023. See also Petti, M., ‘Media amplified US, Israeli narrative on Palestinian deaths’, *Responsible Statecraft*, 20 Nov. 2023.

⁷² UN Relief and Works Agency for Palestine Refugees (UNRWA), Situation Report no. 59 on the situation on the Gaza Strip and the West Bank, including East Jerusalem, 2 Jan. 2024; Farge, E., Tétrault-Farber, G. and Alkousaa, R., ‘UN morns record death toll in war with over 100 employees killed in Gaza’, *Reuters*, 10 Nov. 2023; and Jones, K., ‘Israel–Gaza war brings 2023 journalist killings to devastating high’, *Committee to Protect Journalists*, [n.d.].

⁷³ The figure of 2200 is based on Israeli sources, while Hamas claimed to have launched 5000 rockets. McKernan (note 67). In 2021 Hamas’s rocket arsenal was estimated at 8000. See Kingsley, P. and Bergman, R., ‘Israel’s military inflicted a heavy toll. But did it achieve its aim?’, *New York Times*, 16 June 2021.

⁷⁴ Debre, I., ‘How did Hamas grow its arsenal to strike Israel?’, *AP*, 20 May 2021; Kingsley, P., Bergman, R. and Saad, H., ‘Rockets from Lebanon point to growing Hamas cooperation with Hezbollah’, *New York Times*, 8 Apr. 2023; and Nakhoul, S., ‘How Hamas secretly built a “mini army” to fight Israel’, *Reuters*, 16 Oct. 2023.

⁷⁵ Chávez, K. and Swed, O., ‘How Hamas innovated with drones to operate like an army’, *Bulletin of the Atomic Scientists*, 1 Nov. 2023.

⁷⁶ Burke, J., ‘A deadly cascade: How secret Hamas attack orders were passed down at last minute’, *The Guardian*, 7 Nov. 2023; and Fabian, E. and Pacchiani, G., ‘IDF estimates 3,000 Hamas terrorists invaded Israel in Oct.7 onslaught’, *Times of Israel*, 1 Nov. 2023.

The attack by Hamas on 7 October broke numerous laws of war. The rocket-fire into Israel (which continued sporadically into the following weeks of the conflict, despite Israel's counter-bombardment) made no attempt to discriminate between military and civilian targets.⁷⁷ The murder of civilians by Hamas fighters and the taking of hostages is also a breach of Common Article 3 of the Geneva Conventions (on non-international conflicts). These incidents also appear to violate provisions on war crimes and crimes against humanity in articles 7 and 8 of the Rome Statute of the International Criminal Court (ICC).⁷⁸ While there is some debate regarding whether the conflict should be classified as international (given Israel's status as an occupying power) or non-international (given Hamas's status as a non-state actor), the Rome Statute applies to both types of conflict.⁷⁹

Weapons and tactics used by Israel

Article 51 of the UN Charter, which governs the use of force in self-defence, gives states the right to respond to an armed attack.⁸⁰ Relevant customary law and practice prescribe that self-defence should be limited to what is necessary, thus making the use of armed force unlawful if other routes are possible and proportionate to what serves to repel the attack.⁸¹ Israel's Security Cabinet officially declared a state of war—Israel's first such declaration since the 1973 Yom Kippur War.⁸² The aim was to bring about the 'destruction of the military and governmental capabilities of Hamas and Palestinian Islamic Jihad'.⁸³ Opinion on the legality of this approach was divided. While many legal experts considered Israel's aim to destroy Hamas legitimate, others feared that the force required to achieve this goal would be disproportionate due to the context and situation of Gaza—and therefore illegitimate.⁸⁴

⁷⁷ E.g. International Committee of the Red Cross (ICRC), Customary International Humanitarian Law (IHL) Database, Rule 2, 'Violence aimed at spreading terror among the civilian population', [n.d.].

⁷⁸ For a summary and other details of the Rome Statute see annex A, section I, in this volume.

⁷⁹ Sadat, L., 'Explainer: The Israel–Hamas war and the International Criminal Court', *Jurist*, 25 Jan. 2024.

⁸⁰ Charter of the United Nations, signed 26 June 1945, entered into force 24 Oct. 1945. Israel's 'right to self-defence' also hinges on the status of its occupation of Gaza, which is contested. See Kmiotek, C., 'Israel claims it is no longer occupying the Gaza Strip. What does international law say?', *Atlantic Council*, 31 Oct. 2023; and 'Does Israel have the "right to self-defence" under international law in its war on Gaza?', *New Arab*, 7 Nov. 2023.

⁸¹ Dworkin, A., 'Israel, Hamas, and the laws of war', *European Council on Foreign Relations*, 21 Nov. 2023.

⁸² Israeli Prime Minister's Office, [The Security Cabinet approved the state of war], 8 Oct. 2023 (in Hebrew). See also 'Israel officially declares war on Hamas after surprise attack', *Voice of America*, 8 Oct. 2023.

⁸³ 'Security Cabinet says Israel will destroy military, governmental abilities of Hamas, Islamic Jihad', *Times of Israel*, 8 Oct. 2023.

⁸⁴ E.g. 'Is Israel acting within the laws of war?', *The Economist*, 14 Oct. 2023; Kasher, A., 'Israel's laws of war', *Foreign Affairs*, 27 Oct. 2023; and Purohit, K., 'Does Israel have the right to self-defence in Gaza?', *Al Jazeera*, 17 Nov. 2023.

At the same time as it cleared Hamas fighters from southern Israel, the Israel Defense Forces (IDF)—the country's armed forces—began intense air and artillery strikes on Gaza in advance of a ground assault.⁸⁵ Almost a week after the initial attack on Israel, the IDF informed the UN that the entire population of northern Gaza (1.1 million people) should evacuate to southern Gaza within 24 hours.⁸⁶ Despite the evacuation orders, Israeli forces continued to target areas in the south.⁸⁷ In December the IDF pressed its offensive further into southern Gaza and heavy fighting continued in the north.

At the time of writing, the lack of access to Gaza made it difficult for human rights groups and UN agencies to track specifically what munitions and military equipment the IDF has used in Gaza. However, the repeated use by the IDF of EWIPA can be confirmed from open sources on the Israeli arsenal, data on arms transfers and evidence of previous use during the 2021 war with Hamas, together with media reports of the destruction of many districts of Gaza from air and artillery strikes.⁸⁸

The primary weapons used by the IDF in the 11-day war in 2021 included F-16 and F-35 combat aircraft armed with precision-guided bombs and missiles, armed UAVs, artillery and tanks.⁸⁹ Air strikes conducted by the IDF with large, air-dropped munitions with heavy explosive payloads have also been used extensively in the current conflict. In the 11-day war, Israel reportedly carried out 1500 'strikes' against Gaza.⁹⁰ In the current conflict, more than 15 000 'strikes' had been carried out by late November.⁹¹ Israel also reportedly dropped over 29 000 bombs on Gaza in the first six weeks of the

⁸⁵ On other key aspects of the conflict, such as Israel's blockade on Gaza and the intensive diplomacy that led to a 7-day humanitarian pause in late Nov. and the release of some of the hostages, see chapter 2, section I, in this volume.

⁸⁶ Office of the UN High Commissioner for Human Rights (OHCHR), 'Israel must rescind evacuation order for northern Gaza and comply with international law: UN expert', Press release, 13 Oct. 2023; Debre, I., Lederer, E. M. and Shurafa, W., 'Palestinians flee northern Gaza after Israel orders 1 million to evacuate as ground attack looms', AP, 14 Oct. 2023; and 'Israel says North Gaza shelters "not safe" in new evacuation warning', New Arab, 28 Oct. 2023.

⁸⁷ Gritten, D., 'Dozens killed as Israeli strikes hit southern Gaza refugee areas', BBC, 17 Oct. 2023.

⁸⁸ Whereas the USA has generally released itemized lists of weapons provided to Ukraine, the information released about weapons sent to Israel has been more limited. See Klippenstein, K., 'US weapons transfers to Israel shrouded in secrecy—But not Ukraine', *The Intercept*, 7 Nov. 2023. See also Hartung, W. D., 'Israel's war in Gaza, subsidized by the USA', *The Nation*, 10 Nov. 2023; Young, K., 'Unprecedented harm to civilians in Gaza: Death and injury from the use of air-dropped explosive weapons in densely populated Gaza', *Fragments*, vol. 1, no. 2 (Dec. 2023); and 'Artillery shells transfer', Oxfam Policy Brief, Oct. 2023. On arms transfers to Israel see also chapter 6, section III, in this volume.

⁸⁹ Roblin, S., 'Israel's bombardment of Gaza: Methods, weapons and impact', *Forbes*, 26 May 2021.

⁹⁰ Roblin (note 89).

⁹¹ Leatherby, L., 'Gaza civilians, under Israeli barrage, are being killed at historic pace', *New York Times*, 25 Nov. 2023; and Bob, Y. J., 'IDF special joint operations carries out 10,000 airstrikes', *Jerusalem Post*, 3 Dec. 2023. It is not entirely clear what is meant by 'strikes' in these reports. It is presumed to include air strikes with single missiles or bombs, but the counting of artillery strikes seems less clear.

war—a similar number to that dropped by the USA on the whole of Iraq in the 2003 invasion of that country.⁹²

Following the 2021 war, the IDF's stock of guided munitions was replenished by a US arms transfer worth \$735 million.⁹³ Further supplies were announced late in 2023.⁹⁴ Israel was also thought to have about 100 laser-guided GBU-28 'bunker-busting' bombs and possibly some of the more advanced GBU-72.⁹⁵ The use of bunker-busting munitions in the current conflict has been reported.⁹⁶ Incendiary weapons also appear to have been used in the attacks on Gaza: Human Rights Watch claimed that Israel fired white phosphorus shells at Gaza and Lebanon during its counterattack, although this was denied by Israel.⁹⁷

The use of more modern platforms and more precise missiles and guided bombs does not automatically mean a reduction in civilian deaths. Factors that affect the risk for civilians during a 'precision' attack include the explosive yield of the missile or bomb, the numbers used, the training and experience of the operators, the quality of the targeting intelligence, and the operational setting in which the attack is made.⁹⁸ Moreover, according to US intelligence assessments, nearly half of the bombs used by Israel in Gaza were unguided.⁹⁹

The pattern of Israel's bombing and shelling of Gaza (as confirmed by damage mapping) and the total blockade appeared to fail to distinguish between civilians and combatants and between civilian objects and military objects.¹⁰⁰ An IDF spokesperson admitted on 10 October that, 'while balancing accuracy with the scope of damage, right now we're focused on what causes

⁹² Bertrand, N. and Bo Lillis, K., 'Nearly half of the Israel munitions dropped on Gaza are imprecise "dumb bombs", US intelligence assessment finds', CNN, 14 Dec. 2023; and Human Rights Watch (note 23), pp. 42–45.

⁹³ Demirjian, K., Hudson J. and Alemany, J., 'Biden administration approves \$735 million weapon sale to Israel', *Washington Post*, 17 May 2021.

⁹⁴ Bisht, I. S., 'US rushes "smart" bombs to Israel as Hamas holds dozens hostage', *Defense Post*, 11 Oct. 2023; 'US set to sign off on \$320 million sale of precision-guided bombs to Israel', *Times of Israel*, 7 Nov. 2023; and Wong, E., 'State Department bypasses Congress to approve Israel's order for tank ammunition', *New York Times*, 9 Dec. 2023.

⁹⁵ Borger, J., 'Obama administration "supplied bunker-busting bombs to Israel"', *The Guardian*, 27 Sep. 2011; and Egozi, A., 'Israel to request America's new GBU-77 bunker buster bomb', *Breaking Defense*, 22 Oct. 2021.

⁹⁶ Nuki, P. and Vasilyeva, N., 'Israel bombs Gaza refugee camp in strike targeting top Hamas commander', *The Telegraph*, 31 Oct. 2023; and Williams, B. G., 'Hamas-Israel war: The tunnel war begins', *Real Clear Defense*, 4 Nov. 2023.

⁹⁷ Human Rights Watch, 'Questions and answers on Israel's use of white phosphorus in Gaza and Lebanon', 12 Oct. 2023; and Wintour, P., 'Israel denies using white phosphorous munitions in Gaza', *The Guardian*, 13 Oct. 2023.

⁹⁸ Lee, P., 'Modern warfare: "Precision" missiles will not stop civilian deaths—Here's why', *The Conversation*, 19 Nov. 2021.

⁹⁹ Bertrand and Bo Lillis (note 92).

¹⁰⁰ ICRC Customary IHL Database, Rule 1, 'The principle of distinction between civilians and combatants', and Rule 7, 'The principle of distinction between civilian objects and military objects', [n.d.]. See also Ballinger, O., 'A new tool allows researchers to track damage in Gaza', *Bellingcat*, 15 Nov. 2023; and 'Gaza in ruins: Satellite imagery researchers say Israel has destroyed or damaged 56,000 buildings', *Democracy Now*, 22 Nov. 2023.

maximum damage'.¹⁰¹ This may be a breach of several of the rules on the conduct of hostilities, including the prohibition on indiscriminate attacks.¹⁰² Several international NGOs criticized the actions of the Israeli forces for failing to protect civilians.¹⁰³

Many of the attacks using EWIPA appeared to be indiscriminate or disproportionate, such as the air strikes on Jabalia refugee camp on 31 October and 4 November.¹⁰⁴ In addition, some of the attacks did not appear to be directed at military targets and may have involved the intentional targeting of civilians—such as an air strike on an ambulance convoy on 3 November. The IDF acknowledged launching the air strike but claimed (without producing any evidence) that the ambulance was 'being used by a Hamas terrorist cell in close proximity to their position in the battle zone', adding that a 'number of Hamas terrorist operatives were killed in the strike'.¹⁰⁵

In a statement on 27 December the IDF engaged with some of these criticisms. It outlined IDF target planning principles, military necessity, evacuation efforts, weapon choices and monitoring of strikes. The IDF also defended the use of unguided munitions and weapons with wide-area effects.¹⁰⁶ The statement did not address the issue of how the IDF assesses proportionality—the amount of civilian harm acceptable for a military target.

António Guterres, the secretary-general of the UN, said that the number of civilians killed in Gaza showed that there was something 'clearly wrong' with Israel's military operations.¹⁰⁷ Reacting to the attacks on Jabalia and Bureij refugee camps and the 'reported use of explosive weapons with wide area effects in some of the most densely populated areas in Gaza', the UN's OHCHR conveyed 'serious concerns that the principles of distinction and proportionality are not being respected by both sides'.¹⁰⁸ Reported use of arti-

¹⁰¹ Cited by McKernan, B. and Kierszenbaum, Q., "'We're focused on maximum damage": Ground offensive into Gaza seems imminent', *The Guardian*, 10 Oct. 2023.

¹⁰² ICRC Customary IHL Database, Rule 11, 'Indiscriminate attacks', [n.d.].

¹⁰³ Save the Children, 'Save the Children calls for a ceasefire in Gaza as casualties soar and water runs out', 17 Oct. 2023; and Amnesty International, 'Damning evidence of war crimes as Israeli attacks wipe out entire families in Gaza', 20 Oct. 2023.

¹⁰⁴ Al-Mughrabi, N. and Rose, E., 'Israel strikes dense Gaza camp, says it kills Hamas commander', Reuters, 31 Oct. 2023; Al-Mughrabi, N., Lewis, S. and Al-Khalidi, S., 'Arab leaders press Blinken for Gaza ceasefire after school blasts', Reuters, 4 Nov. 2023; and ICRC Customary IHL Database, Rule 11 (note 102) and Rule 14, 'Proportionality in attack', [n.d.].

¹⁰⁵ Da Silva, C., 'Israel says it hit an ambulance used by Hamas. Gaza officials say it was carrying the wounded', NBC News, 4 Nov. 2023.

¹⁰⁶ Tischler, (Brig. Gen), Statement, Israel Defense Forces, 27 Dec. 2023 For an analysis of the statement see Garlasco, M., 'Legal questions answered and unanswered in Israel's air war in Gaza', *Lawfare*, 2 Jan. 2024.

¹⁰⁷ Galloni, A., 'UN chief says Gaza deaths show something "wrong" with Israel tactics', Reuters, 8 Nov. 2023. See also United Nations, 'Secretary-general's remarks to the Security Council—On the Middle East', 24 Oct. 2023.

¹⁰⁸ United Nations, 'Israel-Palestine crisis: "It's the innocent civilians who are losing"', UN News, 3 Nov. 2023. See also Eboe-Osuji, C., 'Calibrating proportionality and self-defense in Gaza', *Lawfare*, 7 Dec. 2023.

ficial intelligence (AI) to select targets added to such concerns.¹⁰⁹ Meanwhile, a study by an Israeli newspaper found that the air strikes on Gaza were the most indiscriminate in terms of civilian casualties in all the armed conflicts around the world in recent years.¹¹⁰

The issue of human shields

Two of the most controversial allegations of the conflict concern Hamas's use of civilians as human shields to thwart attacks and its prevention of civilians from leaving northern Gaza—both allegations denied by Hamas.¹¹¹ The use of human shields in warfare is forbidden.¹¹² Although Hamas fighters are clearly understood under international humanitarian law to be combatants, the reality is that they are embedded in the local population in Gaza. This makes it difficult for the IDF to target them, especially due to the issue of 'proximate human shields'—that is, civilians or civilian sites that are framed by the attacking side as being deliberately used as shields due to their proximity to the belligerents.¹¹³ However, such framing is not recognized in international law, and in circumstances of doubt the International Committee of the Red Cross (ICRC) recommends that the civilian status of persons and objects should still be presumed and protected.¹¹⁴ Thus, if civilians are sheltering at a site that one belligerent believes hides combatants from the opposing side, it would either need to send soldiers in to target that presence (principle of distinction) or, if opting to carry out an air strike, it must be able to prove the presence of combatants and to argue that the incidental loss of life was proportionate to the military advantage gained (principle of proportionality).

Some of the most disputed 'human shield' allegations centred on claims that Hamas and Palestinian Islamic Jihad were using some hospitals in Gaza and tunnels underneath them to conceal and support their military operations and to hold hostages. For example, Israel claimed, with the support of US intelligence assessments, that Hamas was running a command centre

¹⁰⁹ Abraham, Y., '“A mass assassination factory”: Inside Israel's calculated bombing of Gaza', +972 Magazine, 30 Nov. 2023; and Sylvia, N., 'Israel's targeting AI: How capable is it?', Royal United Services Institute (RUSI), 8 Feb. 2024.

¹¹⁰ Levy, Y., 'The Israeli Army has dropped the restraint in Gaza, and the data shows unprecedented killing', *Haaretz*, 9 Dec. 2023.

¹¹¹ Beaumont, P., 'What is a human shield and how has Hamas been accused of using them?', *The Guardian*, 30 Oct. 2023; and Fabian, E., 'IDF releases new intel detailing Hamas use of hospitals for terror purposes', *Times of Israel*, 5 Nov. 2023.

¹¹² ICRC Customary IHL Database, Rule 97, 'Human shields', [n.d.]; and Bouchié de Belle, S., 'Chained to cannons or wearing targets on their T-shirts: Human shields in international humanitarian law', *International Review of the Red Cross*, vol. 90, no. 872 (Dec. 2008).

¹¹³ Gordon, N. and Perugini, N., 'Proximate "human shields" and the challenge for humanitarian organizations', *Humanitarian Law & Policy*, International Committee of the Red Cross (ICRC), 18 Nov. 2021.

¹¹⁴ ICRC Customary IHL Database, Rule 6, 'Civilians' loss of protection from attack', and Rule 10, 'Civilian objects' loss of protection from attack', [n.d.].

below Al-Shifa hospital.¹¹⁵ This was denied by hospital staff and Hamas and only modest collections of small arms were found within the hospital, with little to suggest the presence of a command centre.¹¹⁶

The specific protection to which hospitals are entitled does not cease unless they are used to commit, outside their humanitarian functions, an ‘act harmful to the enemy’.¹¹⁷ In case of doubt, the presumption is that the special protections continue. If a medical establishment or unit has lost its protected status, a warning must be given before any attack on it.¹¹⁸ Moreover, the risk to civilians must still be observed by the attacking force, and harm disproportionate to the military objective renders an attack illegal.¹¹⁹

Enforcing the norms on the protection of civilians in armed conflict

Striving for effective compliance and enforcement of international humanitarian law during armed conflict remains more urgent than ever, given the increasing destructive power of modern conventional weapons. Violations of the rules meant to protect civilians appear to be on the increase in recent years. In 2022 the United Nations recorded at least 16 988 civilian deaths across 12 armed conflicts, 53 per cent more than in 2021.¹²⁰ Such a large number of civilian casualties may be evidence of indiscriminate or disproportionate attacks. Similarly, ACLED recorded year-on-year increases in 2020–22 in the targeting of civilians, reaching 42 500 events in 2022 compared with 33 300 events reported in 2020.¹²¹ Moreover, there was a considerable increase in the use of EWIPA in 2023 and a rise in civilian casualties of explosive weapons used by state actors (see section I).¹²²

Given that the body of law for protecting civilians applies during times of extreme violence, implementing it will always be difficult. Current geopolit-

¹¹⁵ Fabian, E. and Magid, J., ‘IDF forces raid Gaza’s main hospital, find weapons, “concrete evidence” of Hamas use’, *Times of Israel*, 15 Nov. 2023; and Jean-Pierre, K., White House press secretary, and Kirby, J., US National Security Council coordinator for strategic communications, Press gaggle, White House, 14 Nov. 2023.

¹¹⁶ Fabian and Magid (note 115); and Borger, J., ‘IDF evidence so far falls well short of al-Shifa hospital being Hamas HQ’, *The Guardian*, 17 Nov. 2023.

¹¹⁷ ICRC Customary IHL Database, Rule 28, ‘Medical units’, [n.d.].

¹¹⁸ ICRC Customary IHL Database, Rule 28 (note 117).

¹¹⁹ International Committee of the Red Cross (ICRC), ‘The protection of hospitals during armed conflicts: What the law says’, 2 Nov. 2023; and Schmitt, M. N., ‘Israel–Hamas 2023 symposium—The legal protection of hospitals during armed conflict’, *Articles of War*, US Military Academy, Lieber Institute, 29 Dec. 2023.

¹²⁰ United Nations, Security Council, ‘Protection of civilians in armed conflict’, Report of the secretary-general, S/2023/345, 12 May 2023, para. 5.

¹²¹ Lay, T., *ACLED Year in Review: Global Disorder in 2022* (Armed Conflict Location and Event Data Project: Grafton, WI, Jan. 2023), p. 15; and Lay, T., *ACLED 2021: The Year in Review* (Armed Conflict Location and Event Data Project: Grafton, WI, Mar. 2022), p. 2.

¹²² Torelli, C., ‘Explosive violence: Projections for 2024’, *Action on Armed Violence (AOAV)*, 9 Jan. 2024.

ical divisions within the international system add to those difficulties.¹²³ These divisions often result in paralysis within international mechanisms designed either to prevent or mitigate major hostilities (e.g. the UN Security Council) or to end impunity for the perpetrators of war crimes and contribute to their prevention (e.g. the ICC). However, international humanitarian law is not only enforced through international criminal mechanisms. Common Article 1 of the Geneva Conventions and Additional Protocol I requires each state party ‘to ensure respect’ for international humanitarian law among its own agents and its allies. This responsibility is sometimes reflected in national policies on civilian harm reduction. Most notably, the United States released its first-ever such policy in 2023.¹²⁴

However, many governments, including some of the most powerful, have refused to observe these regulations when it suits them to do so. Many non-state actors, such as Hamas, have done the same. More widely, the devastation of an urban area before ground troops enter it (known as counter-city destruction) has remained a recurrent feature of warfare, including in modern times in Fallujah (2004) and Mosul (2016) in Iraq and Raqqa (2017) in Syria.¹²⁵ This all-too-common loss of life in urban warfare led concerned states and civil society groups to develop the Political Declaration on EWIPA. Over time, it is hoped that this will encourage even the most powerful states to strengthen their standards of targeting and proportionality in order to mitigate unintentional civilian harm in populated areas. To this end, in October 2023 the International Network on Explosive Weapons (INEW), an NGO, called on the 83 states that had endorsed the Political Declaration on EWIPA to make good on their undertaking to ‘actively promote’ the declaration and to ‘seek adherence to its commitments’ by the parties to the Israel–Hamas war, including through their public statements.¹²⁶

Both wars discussed here unfolded against a legacy of significant past events and reports of serious violations of international humanitarian law. For example, Russia’s military intervention in Ukraine from 2014 was preceded by interventions in Chechnya, Georgia and Syria, where violations

¹²³ On the paralysis of the international system, including in the UN Security Council caused by rivalry among the veto-wielding great powers, see Smith, D., ‘Introduction: International stability and human security in 2022’, *SIPRI Yearbook 2023*, pp. 8–13.

¹²⁴ US Department of Defense (DOD), ‘Civilian harm mitigation and response’, DOD Instruction no. 3000.17, 21 Dec. 2023; and Garlasco, M., ‘Pentagon releases first-ever policy on civilian harm reduction’, *Lawfare*, 22 Dec. 2023.

¹²⁵ McCarthy, R. and Beaumont, P., ‘Civilian cost of battle for Falluja emerges’, *The Guardian*, 14 Nov. 2023; George, S. et al., ‘Mosul is a graveyard: Final IS battle kills 9,000 civilians’, AP, 21 Dec. 2017; and Amnesty International (AI), ‘War of Annihilation’: *Devastating Toll on Civilians, Raqqa–Syria* (AI: London, June 2018).

¹²⁶ International Network on Explosive Weapons (INEW), ‘Open letter to states that have endorsed the Political Declaration’, 26 Oct. 2023; and Political Declaration on Strengthening the Protection of Civilians from the Humanitarian Consequences Arising from the Use of Explosive Weapons in Populated Areas (note 10), para. 4.8.

of international humanitarian law were widely documented.¹²⁷ This suggests a culture of violence and impunity in the Russian armed forces. Since the invasion of 2022 there has been only a single reported case of Russia arresting one of its own soldiers on suspicion of killing Ukrainian civilians.¹²⁸ Similarly, Israel and Hamas have precedents of failing to protect civilians during armed violence in breach of international humanitarian law.¹²⁹

Three aspects of the Russia–Ukraine war offer some limited optimism. First, 43 states called for the ICC to investigate alleged war crimes in Ukraine.¹³⁰ This led to the opening of the ICC’s largest ever investigation.

Second, the restraint shown by Ukraine appears to have led to relatively few alleged breaches of international humanitarian law by its forces during the conflict to date. It has also, for example, agreed to respond to allegations of APM use.¹³¹ This restraint may be because the war is largely taking place on its own territory, for reputational reasons or because of the pressure of allies. However, the spillover of the conflict into Russia’s border regions and the increasing number of civilian casualties from Ukrainian UAV and missile attacks on Russian territory suggests that this restraint may be weakening.¹³²

Third, the use of cluster munitions in the war may—paradoxically—strengthen the norm against their use in the longer term. Although none of the relevant states (Russia, Ukraine and USA) is party to the CCM, the moral persuasion of the norm both delayed the introduction of new supplies of the weapons to the battlefield and shaped US and Ukrainian explanations that their actions were a last resort, with measures designed to minimize the risk to civilians.¹³³

There are fewer grounds for optimism in the Israel–Hamas war. Justice has been absent from the Israeli–Palestinian conflict for decades, yet a formal ICC investigation was only opened in March 2021.¹³⁴ In May 2021 the UN Human Rights Council initiated a separate investigation into the situation

¹²⁷ E.g. United Nations, General Assembly, Human Rights Council, Report of the Independent International Commission of Inquiry on the Syrian Arab Republic, A/HRC/43/57, 28 Jan. 2020; and European Court of Human Rights, ‘Armed conflicts’, Fact sheet, Jan. 2023.

¹²⁸ Sauer, P., ‘Russian soldiers accused of killing family of nine in Ukraine’, *The Guardian*, 31 Oct. 2023.

¹²⁹ E.g. United Nations, General Assembly, Human Rights Council, ‘Human rights in Palestine and other Arab occupied territories’, Report of the United Nations Fact-Finding Mission on the Gaza Conflict, A/HRC/12/48, 25 Sep. 2009.

¹³⁰ International Criminal Court, ‘Ukraine’, [n.d.].

¹³¹ Human Rights Watch (note 56); and APM Convention Intersessional Meeting, Statement by Ukraine (note 56).

¹³² Rosolovskaya, K. and Gurcov, N., ‘Importing instability: How the war against Ukraine makes Russia less secure’, Armed Conflict Location and Event Data Project (ACLED), 9 Nov. 2023.

¹³³ Carpenter, C., ‘The norm against cluster bombs is in better shape than it seems’, *World Politics Review*, 18 July 2023.

¹³⁴ On Palestinian efforts to invoke the ICC see Brody, R., ‘Gaza—Where is the law?’, *The Nation* (New York), 10 Nov. 2023; and Meloni, C., ‘The war in Gaza: International law is nothing if it is not applied’, *Justice in Conflict*, 3 Nov. 2023.

in Palestine, which concluded in October 2023 that ‘there is already clear evidence’ that war crimes may have been committed by Hamas and the IDF.¹³⁵ The UN high commissioner for human rights, Volker Türk, also said that war crimes had been committed by both sides, while a group of UN experts warned the Human Rights Council of the risk of genocide in Gaza.¹³⁶ On 29 December 2023 South Africa instituted proceedings against Israel before the International Court of Justice (ICJ), the UN’s principal judicial organ, concerning alleged violations by Israel of its obligations under the 1948 Genocide Convention in relation to Palestinians in Gaza.¹³⁷ While the ICJ is likely to take years to make a final finding, in January 2024 it made a preliminary ruling that Israel must take action to prevent acts of genocide and called on Hamas to release its hostages.¹³⁸ However, the court did not order an immediate ceasefire. Finally, there have also been national court proceedings in several Western states, including the Netherlands, the United Kingdom and the United States, challenging the supply of conventional arms to Israel.¹³⁹

Conclusions

For thousands of years humanity has tried to impose limits on war, leading to the contemporary legal and moral evolution of international humanitarian law, as well as international conventions for regulating the means and methods of warfare. Efforts to define the limits on the types of weapon available during armed conflict, and how they may be employed, remain ‘work in progress’, not least because these norms and rules of international humanitarian law

¹³⁵ Office of the UN High Commissioner for Human Rights (OHCHR), ‘Commission of Inquiry collecting evidence of war crimes committed by all sides in Israel and Occupied Palestinian Territories since 7 October 2023’, 10 Oct. 2023. The commission was established by UN Human Rights Council Resolution S-30/1, ‘Ensuring respect for international human rights law and international humanitarian law in the Occupied Palestinian Territory, including East Jerusalem, and in Israel’, 27 May 2021.

¹³⁶ United Nations, ‘At Rafah crossing, Türk says both Israel and Hamas have committed war crimes’, UN News, 8 Nov. 2023; and Office of the UN High Commissioner for Human Rights (OHCHR), ‘Gaza: UN experts call on international community to prevent genocide against the Palestinian people’, Press release, 16 Nov. 2023.

¹³⁷ International Court of Justice (ICJ), ‘The Republic of South Africa institutes proceedings against the State of Israel and requests the Court to indicate provisional measures’, Press Release no. 2023/77, 29 Dec. 2023; and South African Government, Application instituting proceedings and request for the indication of provisional measures, International Court of Justice, 29 Dec. 2023. For a summary and other details of the Convention on the Prevention and Punishment of the Crime of Genocide see annex A, section I, in this volume. For a brief description of the ICJ see annex B, section I, in this volume.

¹³⁸ International Court of Justice (ICJ), ‘Application of the Convention on the Prevention and Punishment of the Crime of Genocide in the Gaza Strip (South Africa v. Israel)’, Order, 26 Jan. 2024.

¹³⁹ E.g. Abdul, G., ‘UK government faces legal challenge over arms exports to Israel’, *The Guardian*, 6 Dec. 2023; ‘Dutch court dismisses war crimes case against military supplies to Israel’, *Al Jazeera*, 13 Dec. 2023; and Youssef, N. A. and Salama, V., ‘US blocks shipment of rifles to Israel over concerns of West Bank settler violence’, *Wall Street Journal*, 13 Dec. 2023.

are expected to develop with the evolution of military technology. In recent decades some major advances have been made, including the development of humanitarian disarmament, which aims to protect human beings during and after armed conflicts.

Protection of civilians requires not just compliance with fundamental principles of targeting—distinction, proportionality and precaution—but also the application of limits on the types of weapon and ammunition that maybe employed in armed conflict. Given that the rules meant to protect civilians in war are being bent or broken regularly and systematically, they need to be updated to match new tactics and technology and their restraining and protective functions need to be enhanced.

The norms on protection of civilians are mandatory, not optional. They remain important guardrails against the worst excesses in warfare and need to be both acknowledged as such and strengthened.