I. Multilateral regulation of inhumane weapons and other conventional weapons of humanitarian concern

IAN DAVIS AND GIOVANNA MALETTA

Many of the contemporary debates on conventional arms control are shaped by the concept of 'humanitarian disarmament', which prioritizes the protection, security and well-being of people as opposed to states. This approach strives to increase the protection of civilians by reducing the human and environmental impacts of arms.1 One of the main multilateral treaties designed for regulating weapons that are considered to cause unnecessary or unjustifiable suffering to combatants or to affect civilians indiscriminately is the 1981 Certain Conventional Weapons Convention (CCW Convention) and its five protocols. Their scope extends to landmines, incendiary weapons and explosive remnants of war (ERW), among other weapon types.² Since the CCW Convention is an umbrella treaty, agreements on additional weapon types can be regulated through the adoption of new protocols. In recent decades, however, there have been increasing tensions between the prioritization of humanitarian demands and the perceived military needs of certain states. Because the CCW regime operates by consensus, a small number of states that have chosen to retain or develop weapons seen as inhumane by others have simply vetoed or stalled progress on strengthening the treaty.³

As of 31 December 2021, there were 125 states parties to the CCW Convention and at least two of its five protocols; no new state joined in 2021.⁴ The parties meet regularly at annual meetings and quinquennial review conferences. These meetings also consider the work of the groups of governmental experts (GGEs) convened since 2001 in various formats. Amended Protocol II and Protocol V have their own parallel implementation processes. Unlike in 2020, when all but three CCW-related meetings were postponed due to Covid-19 restrictions, all nine meetings took place in 2021 (see table 13.1). However, a handful of states once again obstructed advances in most of the CCW agenda. For example, at the sixth review conference, which took place

¹ See the discussions on humanitarian disarmament in Anthony, I., 'International humanitarian law: ICRC guidance and its application in urban warfare', *SIPRI Yearbook 2017*; and Davis, I. and Verbruggen, M., 'The Convention on Certain Conventional Weapons', *SIPRI Yearbook 2018*, p. 381. See also International Committee of the Red Cross (ICRC), 'International humanitarian law and the challenges of contemporary armed conflicts: Recommitting to protection in armed conflict on the 70th anniversary of the Geneva Conventions', *International Review of the Red Cross*, vol. 101, no. 911 (Aug. 2019).

² For a summary and other details of the CCW Convention see annex A, section I, in this volume.

³ See e.g. the discussion on the 2016 CCW Review Conference in Davis, I. et al., 'Humanitarian arms control regimes: Key developments in 2016', *SIPRI Yearbook 2017*, pp. 554–61; and on developments since then in the 2018–21 editions of the SIPRI Yearbook.

⁴For lists of the CCW Convention states parties that have ratified the original, amended and additional protocols see annex A, section I, in this volume.

Table 13.1. Meetings of the Certain Conventional Weapons Convention in 2021

Dates	Meeting
3–13 August	GGE on LAWS
18 August	Protocol V meeting of experts
16-17 August	Amended Protocol II group of experts
6–8 September	Preparatory meeting for 6th CCW review conference
24 September–1 October	GGE on LAWS
2–8 December	GGE on LAWS
9 December	15th annual conference of the parties to Protocol V
10 December	23rd annual conference of the parties to Amended Protocol II
13-17 December	6th CCW review conference

GGE = group of governmental experts; LAWS = lethal autonomous weapon systems. *Note*: All meetings took place in Geneva.

on 13–17 December 2021, a few countries were able to prevent progress on the main agenda item—a possible new protocol on autonomous weapon systems (AWS)—as well as in other important areas, such as efforts to strengthen controls on incendiary weapons and mines other than anti-personnel mines (MOTAPM).⁵

One of the consequences of this is that regulatory progress in some of these weapon types may be sought outside the CCW process by groups of small and middle-power states supported by civil society networks—as was the case on landmines, with the 1997 Anti-Personnel Mine (APM) Convention, and cluster munitions, with the 2008 Cluster Munitions Convention (CCM). Ireland is already leading a separate process to address the use of explosive weapons in populated areas (EWIPA).

Other categories of conventional weapon that raise humanitarian concerns are dealt with by other legal and political processes. For example, armed uncrewed aerial vehicles (UAVs) have been addressed to some extent by the United Nations General Assembly, the Missile Technology Control Regime (MTCR) and the 2013 Arms Trade Treaty (ATT). However, there is no dedicated multilateral process on the regulation of armed UAVs. Similarly, small arms and light weapons (SALW) are regulated by a series of regional and subregional treaties and by two politically binding agreements: the 2001 UN Programme of Action on SALW (POA) and the 2005 International Tracing Instrument (ITI). In both cases, there have been calls for further and tighter regulation.

This section reviews the key developments and treaty negotiations that took place in 2021 in relation to weapons deemed to be inhumane and other

⁵ 6th CCW Review Conference, Final document, CCW/CONF.VI/11 (Advance version), 10 Jan. 2022, part II, Final declaration. On criticism of the conduct and outcome of the Review Conference see Gisel, L., 'The ICRC urges states to achieve tangible results next year towards adopting new legally binding rules on autonomous weapons', Final statement by the International Committee of the Red Cross (ICRC), 17 Dec. 2021; and Acheson, R., Reaching Critical Will, 'Editorial: "Our position has not changed"', *CCW Report*, vol. 9, no. 13, 17 Dec. 2021.

⁶ On the regional and subregional treaties regulating SALW see annex A, section II, in this volume.

weapons that raise humanitarian concerns. It first looks at weapon types addressed principally within the CCW regime and parallel frameworks (the CCM and APM Convention): incendiary weapons, EWIPA, cluster munitions, and landmines, improvised explosive devices (IEDs) and ERW. The challenges posed by AWS and the prominent intergovernmental efforts within the CCW regime to address them are discussed in section II. Given the deadlock, a new regulatory process outside the CCW framework to consider AWS now seems increasingly likely. This section then looks at developments related to armed UAVs and SALW.

Incendiary weapons

Incendiary weapons produce heat and fire through the chemical reaction of a flammable substance. They cause extremely painful burn injuries that are difficult to treat and start fires that can destroy civilian infrastructure. Protocol III to the CCW Convention regulates the use of incendiary weapons. but critics argue that it is being undermined by two loopholes.8 First, it prohibits the use of air-dropped incendiary weapons in civilian areas but permits the use of ground-launched versions under certain circumstances. Second, it does not encompass white phosphorus or other munitions that are 'primarily designed' to create smokescreens or to signal troops, yet still produce the same incendiary effects.

Over 20 states, the European Union (EU), the International Committee of the Red Cross (ICRC) and many non-governmental organizations (NGOs) have raised concerns about incendiary weapons since the fifth CCW review conference, in 2016, and many of them have called for further discussion of the issue.9 Some have been calling for Protocol III to be reviewed and strengthened by banning the use of all incendiary weapons in civilian areas and by broadening the definition in the protocol to cover white phosphorus.

Ahead of the sixth CCW review conference, Human Rights Watch organized an open letter from more than 50 healthcare professionals, medical-related organizations and burn survivor groups urging governments to strengthen international law on these weapons.¹⁰ While the CCW review conference agreed to condemn the use of incendiary weapons against civilians, Russia and Cuba blocked a widely supported proposal by Ireland to hold

⁷ Carpenter, C., 'A better path to a treaty banning "killer robots" has just been cleared', World Politics Review, 7 Jan. 2022.

⁸ Human Rights Watch (HRW) and International Human Rights Clinic, 'They Burn Through Everything': The Human Cost of Incendiary Weapons and the Limits of International Law (HRW: New York, Nov. 2020), pp. 38-39.

⁹ Human Rights Watch and International Human Rights Clinic, 'Incendiary weapons: Assessing the problem', Feb. 2021.

¹⁰ Humanitarian Disarmament, 'Open letter on incendiary weapons from healthcare professionals and burn survivor organizations', Nov. 2021.

informal consultations on Protocol III in 2022.¹¹ It thus seems likely that there will be recurring pressure to adopt this topic at CCW meetings in the coming years.

Explosive weapons in populated areas

The use of EWIPA—and especially the use of explosive weapons with a large destructive radius, an inaccurate delivery system or the capacity to deliver multiple munitions over a wide area—has frequently led to situations in which over 90 per cent of casualties in populated areas are civilian rather than combatants.¹² One study recorded 357 370 casualties (155 118 people killed and 202 252 injured) from explosive weapons in the decade 2011–20, 73 per cent of whom were civilians.¹³ Of the recorded incidents, 60 per cent took place in populated areas, and civilians accounted for 91 per cent of the casualties (238 892) in those areas. The use of EWIPA also has reverberating effects, with impacts on water, sanitation, ecosystems, healthcare, education and psychological well-being.¹⁴

Moves to regulate EWIPA

The International Network on Explosive Weapons (INEW), a coalition of NGOs, was first to articulate EWIPA as an issue that demanded attention in the early 2010s. This led to calls from an increasing number of states, successive UN secretary-generals, international bodies and other NGOs for measures to provide better protection for civilians and to prevent harm

¹¹ 6th CCW Review Conference, CCW/CONF.VI/11 (note 5), paras 89–91. Austria, Chile, Colombia, Costa Rica, Ireland, Mexico, the Netherlands, New Zealand, Norway, Panama, Peru, Switzerland and several NGOs supported work being undertaken on Protocol III. See Acheson, R., 'Incendiary weapons', Reaching Critical Will, *CCW Report*, vol. 9, no. 11 (15 Dec. 2021); and Acheson, R., 'Incendiary weapons', Reaching Critical Will, *CCW Report*, vol. 9, no. 13 (17 Dec. 2021).

12 Action on Armed Violence (AOAV), Explosive Violence Monitor 2019 (AOAV: London, 2020), p. 3. See also International Committee of the Red Cross (ICRC), 'Explosive weapons in populated areas', [n.d.]; and International Network on Explosive Weapons (INEW), 'Protecting civilians from the use of explosive weapons in populated areas', May 2020.

¹³ The study was based on the monitoring of 29 000 incidents in 123 countries recorded by English-language media. Action on Armed Violence (AOAV), *A Decade of Explosive Violence Harm* (AOAV: London, May 2021), p. 9.

¹⁴ For detailed taxonomies of these effects see Wille, C. and Malaret Baldo, A., Menu of Indicators to Measure the Reverberating Effects on Civilians from the Use of Explosive Weapons in Populated Areas (UNIDIR: Geneva, Feb. 2021); and Malaret Baldo, A. and Batault, F., Second Menu of Indicators to Measure the Reverberating Effects on Civilians from the Use of Explosive Weapons in Populated Areas (UNIDIR: Geneva, Feb. 2022). See also Action on Armed Violence (AOAV), Blast Injury: The Reverberating Health Consequences from the Use of Explosive Weapon Use (AOAV: London, 2020); Action on Armed Violence (AOAV), The Broken Land: The Environmental Consequences of Explosive Weapons (AOAV: London, 2020); and UN Children's Fund (UNICEF), Water Under Fire, vol. 3, Attacks on Water and Sanitation Services in Armed Conflict and the Impacts on Children (UNICEF: New York, 2021).

¹⁵ See e.g. International Network on Explosive Weapons (INEW), Stop Bombing Civilians: An Advocacy Guide on Explosive Weapons in Populated Areas (INEW: London, [Sep. 2012]).

from EWIPA. 16 After many years of failing to make progress within the CCW framework, and as a result of this increasing international political pressure, a separate process gathered momentum in late 2019 and early 2020.¹⁷

This process was led by Ireland, which convened a series of open consultations with the aim of developing a political declaration to address the humanitarian harm arising from the use of EWIPA. Such a declaration would aim to establish a new international norm against the use of explosive weapons in towns and cities, which could in turn drive changes in military practice at the policy and operational levels. The Covid-19 pandemic meant that consultations scheduled for March 2020 and the planned adoption of the declaration in May 2020 were postponed, although another round of consultations was held online in 2020.

Developments in 2021

The Irish-led process restarted in January 2021, with Ireland releasing a revised draft declaration and holding consultations online to discuss it on 3-5 March 2021. 18 The written submissions (from 22 states, the Arab Group and 19 NGOs) largely welcomed the revised draft with reservations. 19 Several states (notably Australia, Belgium, Canada, Colombia, France, Israel, Lithuania, the United Kingdom and the United States) argued for qualifying language throughout the text that would be likely to weaken the declaration, while other states and most NGOs called for the draft declaration to be strengthened.²⁰ The ICRC, for example, argued for the commitment to be upgraded from 'restricting' to 'avoiding' the use of EWIPA.²¹ The consultations are expected to be concluded in 2022.

¹⁶ See e.g. Austrian Federal Ministry for Europe, Integration and Foreign Affairs, 'Vienna Conference on Protecting Civilians in Urban Warfare: Summary of the conference', Vienna, 1-2 Oct. 2019; and United Nations, Joint appeal by the UN secretary-general and the president of the International Committee of the Red Cross on the use of explosive weapons in cities, Press Release SG/2251, 18 Sep. 2019. For a list of 112 states and territories and 9 state groupings that have publicly acknowledged the harm caused by EWIPA in statements see International Network on Explosive Weapons (INEW), 'Political response', [n.d.].

¹⁷ Irish Department of Foreign Affairs, 'Protecting civilians in urban warfare', [n.d.]. For developments in 2019-20 see Davis, I., 'Global instruments for conventional arms control', SIPRI Yearbook 2020, pp. 496-99; and Davis, I., 'Global and regional instruments for conventional arms control', SIPRI Yearbook 2021, pp. 508-10.

¹⁸ Irish Department of Foreign Affairs, 'Draft Political Declaration on Strengthening the Protection of Civilians from the Humanitarian Consequences that can arise from the use of Explosive Weapons with Wide Area Effects in Populated Areas', Rev 1, 29 Jan. 2021.

¹⁹The written submissions are available at Irish Department of Foreign Affairs, Written submissions-3-5 March 2021 informal consultations', 23 Feb. 2021.

²⁰ For a detailed analysis of participant statements at the consultations see Reaching Critical Will, Report on the March 2021 consultations on a political declaration on the use of explosive weapons in populated areas', 12 Mar. 2021.

²¹ International Committee of the Red Cross (ICRC), 'Draft political declaration on strengthening the protection of civilians from the humanitarian consequences that can arise from the use of explosive weapons with wide area effects in populated areas: Comments by the International Committee of the Red Cross (ICRC)', Feb. 2021.

The use of EWIPA was discussed in several other international forums in 2021. First, at the UN Security Council's annual open debate on the protection of civilians (POC), most participants voiced concerns about ongoing harms to civilians in armed conflict, with the majority specifically condemning the use of EWIPA and attacks on medical facilities and personnel.²² The UN secretary-general's annual report on POC continued to emphasize the threats faced by civilians from the use of EWIPA, with a particular focus on the impact on healthcare services.²³ Second, many states voiced support for the political declaration process during the 2021 meetings of the UN General Assembly's First Committee (on disarmament and international security). Austria, Azerbaijan, Costa Rica, Iceland, Ireland, New Zealand, San Marino and Switzerland all raised concerns about the use of EWIPA in their national statements, as did the UN high representative for disarmament affairs, INEW and a group of 16 NGOs.²⁴ Third, nine delegations addressed EWIPA during the general exchange of views over the first two days of the sixth CCW review conference.²⁵ The issue of the use of EWIPA also came up in the context of the draft final declaration, but a reference to 'explosive weapons' in the preamble was deleted at the insistence of Russia, with the support of Cuba and Romania.26

While it seems likely that a political declaration will be adopted by some states in 2022, other states that regularly use EWIPA are likely to continue as before. Hence, the political declaration should be seen as only the first step towards establishing an effective norm against EWIPA.

Cluster munitions

Cluster munitions are air-dropped or ground-launched weapons that release smaller submunitions intended to kill enemy personnel or destroy vehicles. There are three main criticisms of cluster munitions: they disperse large

²² United Nations, Security Council, Letter dated 27 May 2021 from the president of the Security Council, S/2021/505, 28 May 2021. For an analysis of the meeting see Acheson, R., 'Protecting civilians by preventing conflict', Reaching Critical Will, 4 June 2021.

²³ United Nations, Security Council, 'Protection of civilians in armed conflict', Report of the Secretary-General, S/2021/423, 3 May 2021.

²⁴ Nakamitsu, I., UN High Representative for Disarmament Affairs, Opening statement to the First Committee of the UN General Assembly, 4 Oct. 2021; Jaramillo, C., International Network on Explosive Weapons (INEW), Statement at the First Committee of the UN General Assembly, 8 Oct. 2021; Cottrell, L., Conflict and Environment Observatory, 'Protection of the environment in relation to armed conflicts', Statement at the First Committee of the UN General Assembly, 9 Oct. 2021; and Young, K., 'Explosive weapons in populated areas', Reaching Critical Will, *First Committee Monitor*, vol. 19, no. 2 (9 Oct. 2021).

²⁵ Varella, L., 'Use of explosive weapons in populated areas', Reaching Critical Will, *CCW Report*, vol. 9, no. 10 (14 Dec. 2021).

²⁶ 6th CCW Review Conference, CCW/CONFVI/11 (note 5), part II, Final declaration; and Varella, L. and Acheson, R., 'Use of explosive weapons in populated areas', Reaching Critical Will, *CCW Report*, vol. 9, no. 11 (15 Dec. 2021).

numbers of submunitions imprecisely over an extended area; they frequently fail to detonate and are difficult to detect; and unexploded submunitions can remain explosive hazards for many decades.²⁷

The humanitarian consequences of cluster munitions and the unacceptable harm to civilians that they cause are addressed by the 2008 Convention on Cluster Munitions.²⁸ The CCM establishes an unconditional prohibition on cluster munitions. It also requires the destruction of stockpiles within 8 years of entry into force of the Convention (Article 3), the clearance of areas contaminated by cluster munition remnants within 10 years (Article 4) and the provision of assistance for victims of such weapons (Article 5). As of 31 December 2021, the CCM had 110 parties and 13 signatory states, among which are former major producers and users of cluster munitions as well as affected states. In the UN General Assembly in December 2021, 146 states voted to adopt its seventh resolution supporting the CCM, with one vote against (Russia).29

Use and production of cluster munitions in 2020/21

No CCM state party has used cluster munitions since the convention was adopted and most of the states still outside the convention abide de facto by the ban on the use and production of these weapons. However, the Cluster Munition Coalition reported the use of cluster munitions in Azerbaijan, including Nagorno-Karabakh, and Syria during the period August 2020-July 2021.30

There is convincing evidence that both Armenia and Azerbaijan (neither a party to the CCM) used cluster munitions in the armed conflict in Nagorno-Karabakh in September-October 2020, although both denied doing so and each blamed the other side for this use. 31 Syrian government forces have used cluster munitions since 2012, probably with the support of Russia, and at least 687 cluster munition attacks by government forces were reported between

²⁷ Feickert, A. and Kerr, P. K., Cluster Munitions: Background and Issues for Congress, Congressional Research Service (CRS) Report for Congress RS22907 (US Congress, CRS: Washington, DC, 22 Feb.

²⁸ For a summary and other details of the CCM see annex A, section I, in this volume.

²⁹ UN General Assembly Resolution 76/47, 'Implementation of the Convention on Cluster Munitions', 6 Dec. 2021.

³⁰ Cluster Munition Coalition (CMC), Cluster Munition Monitor 2021 (International Campaign to Ban Landmines-CMC: Geneva, Sep. 2021), pp. 1, 13-15. Cluster Munition Monitor 2021 focuses on the calendar year 2020 with information included to Aug. 2021 where possible.

³¹ Cluster Munition Coalition (note 30), pp. 13-14; Amnesty International, 'Armenia/Azerbaijan: Civilians must be protected from use of banned cluster bombs', 5 Oct. 2020; Human Rights Watch, 'Azerbaijan: Cluster munitions used in Nagorno-Karabakh', 23 Oct. 2020; and Williamson, H., 'Unlawful attack on medical facilities and personnel in Nagorno-Karabakh', Human Rights Watch, 26 Feb. 2021. On the armed conflict in Nagorno-Karabakh see Davis, I., 'The interstate armed conflict between Armenia and Azerbaijan', SIPRI Yearbook 2021; and chapter 5, section I, in this volume.

July 2012 and July 2021, including at least one new attack in 2020/21. There were also unsubstantiated allegations of cluster munitions use in the Tigray region of Ethiopia in 2020/21. 33

The Cluster Munition Coalition lists 16 states as producers of cluster munitions—Brazil, China, Egypt, Greece, India, Iran, Israel, North Korea, South Korea, Pakistan, Poland, Romania, Russia, Singapore, Turkey and the USA—none of them party to the CCM.³⁴ A lack of transparency means that it is unclear whether any of them were actively producing such munitions in 2020/21.

Cluster munition clearance and stockpile destruction

Stockpile destruction is one of the CCM's major successes. As of August 2021, 36 of the 41 states parties that had declared possession of cluster munitions had completed the destruction of their stockpiles.³⁵ This destruction of 1.5 million stockpiled cluster munitions containing 179 million submunitions represents the destruction of 99 per cent of all the cluster munitions and submunitions declared as stockpiled under the CCM.

The quantity of cluster munitions currently stockpiled by non-signatories to the CCM is unknown. Similarly, it is not possible to provide an accurate estimate of the total size of the area contaminated by cluster munition remnants, but at least 26 UN member states and 3 other states or areas remain contaminated by cluster munitions. These include 10 CCM states parties—Afghanistan, Bosnia and Herzegovina, Chad, Chile, Germany, Iraq, Laos, Lebanon, Mauritania, and Somalia—and two signatory states—Angola and the Democratic Republic of the Congo (DRC). In addition, there are remnants in 14 non-signatory UN member states—Armenia, Azerbaijan, Cambodia, Georgia, Iran, Libya, Serbia, South Sudan, Sudan, Syria, Tajikistan, Ukraine, Viet Nam and Yemen—and 3 other states or areas—Kosovo, Nagorno-Karabakh and Western Sahara.

Over the past decade, six CCM state parties—the Republic of the Congo, Croatia, Grenada, Montenegro, Mozambique and Norway—have completed clearance of areas contaminated by cluster munition remnants.³⁷

The second CCM review conference

Due to Covid-19-related restrictions, it was agreed to split the second review conference of the CCM into two parts: a virtual meeting (held on

³² Cluster Munition Coalition (note 30), pp. 14–15. On the armed conflict in Syria see chapter 6, section II, in this volume.

 $^{^{33}}$ Cluster Munition Coalition (note 30), p. 15. On the armed conflict in Ethiopia see chapter 7, section IV, in this volume.

³⁴ Cluster Munition Coalition (note 30), pp. 16–18.

³⁵ Cluster Munition Coalition (note 30), pp. 2, 19–24.

³⁶ Cluster Munition Coalition (note 30), pp. 39–45.

³⁷ Cluster Munition Coalition (note 30), pp. 39-40.

25-27 November 2020) and a meeting in hybrid format (originally scheduled for 4-5 February 2021 but subsequently held on 20-21 September 2021 in Geneva).38 The first part of the conference reviewed progress on CCM implementation and focused on procedural matters, including discussion of extension requests for stockpile destruction and clearance, and other financial and administrative issues.³⁹

The second part adopted the Lausanne Action Plan to support implementation of the CCM in 2021-26, replacing the 2015 Dubrovnik Action Plan. 40 The new plan includes 50 concrete actions to implement the CCM. These cover treaty universalization, stockpile destruction, clearance of contaminated land, risk education, victim assistance, international cooperation and assistance, transparency, national implementation, and compliance. The conference also adopted a declaration, the Lausanne Declaration, expressing 'grave concern' about new cluster munition use since the first review conference, in 2015.41

The conference granted extensions of deadlines to Bulgaria and Peru for the completion of destruction of cluster munitions stockpiles. 42 It also granted extensions to Afghanistan, Bosnia and Herzegovina, Chile, Lebanon, and Mauritania for completing the clearance and destruction of cluster munition remnants.43

Landmines, improvised explosive devices and explosive remnants of war

Anti-personnel mines are mines that detonate on human contact—that is, they are 'victim-activated'—and therefore encompass improvised explosive devices that act as APMs, also known as 'improvised mines'. 44 APMs are prohibited under the 1997 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (APM Convention).⁴⁵ As of 31 December 2021 there were 164 states parties to the APM Convention; no new states joined in 2021. Amended Protocol II of the CCW Convention also regulates (but does not entirely ban) landmines (i.e. APMs and MOTAPM or anti-vehicle mines), booby-traps and IEDs.

³⁸ For videos, documents and decisions of the two parts of the conference see CCM Implementation Support Unit, 'First part of the second review conference', 25-27 Nov. 2020; and 'Second part of the second review conference', 20-21 Sep. 2021.

³⁹ On the first part see Davis, SIPRI Yearbook 2021 (note 17), p. 517.

⁴⁰ Convention on Cluster Munitions (CCM), Lausanne Action Plan (CCM Implementation Support Unit: Geneva, Sep. 2021). On the earlier plan see Convention on Cluster Munitions (CCM), Dubrovnik Action Plan (CCM Implementation Support Unit: Geneva, Sep. 2015).

^{41 2}nd CCM Review Conference, Final report, CCM/CONF/2021/6, 6 Oct. 2021, annex I.

⁴² 2nd CCM Review Conference, CCM/CONF/2021/6 (note 41), paras 32-46.

^{43 2}nd CCM Review Conference, CCM/CONF/2021/6 (note 41), paras 49-76.

⁴⁴ See Seddon, B. and Malaret Baldo, A., Counter-IED: Capability Maturity Model & Self-assessment Tool (UN Institute for Disarmament Research: Geneva, 2020).

⁴⁵ For a summary and other details of the APM Convention see annex A, section I, in this volume.

A dedicated group of experts under this protocol has been working on these devices since 2009. Protocol V regulates ERW, including landmines, unexploded ordnance and abandoned explosive ordnance. IEDs are also discussed in the First Committee of the UN General Assembly, including through the submission of resolutions.

Use and Production of APMs in 2020-21

New use of APMs by states is now extremely rare. According to the International Campaign to Ban Landmines (ICBL), Myanmar (which is not a party to the APM Convention) is the only state to have used APMs in the period mid-2020 to October 2021, and it had been deploying them for the previous 20 years. New use was also suspected during the conflict in Nagorno-Karabakh in late 2020 but could not be verified.⁴⁶ More than 50 states have produced APMs in the past, but the ICBL identifies only 12 as current producers, and only 5 as probable active producers: India, Iran, Myanmar, Pakistan and Russia.⁴⁷

While there is a de facto moratorium on the production and use of the weapon among most states in the world, the use of APMs, including victim-activated IEDs, by non-state armed groups in conflicts is a growing problem. ⁴⁸ APMs were used by such groups in at least six states between mid-2020 and October 2021: Afghanistan, Colombia, India, Myanmar, Nigeria and Pakistan. There were also unconfirmed allegations of use by non-state armed groups in Cameroon, Egypt, Niger, the Philippines, Thailand, Tunisia and Venezuela. ⁴⁹

In 2020, the most recent year for which comparative data is available, the number of victims rose by 20 per cent compared to 2019, due to 'increased conflict and contamination' of land with improvised mines.⁵⁰ In total, over 7000 people were killed or injured in 54 countries and areas—the sixth successive year of high casualties, and in the past 20 years only lower than in 2001–2002 and 2016–17. The two states with the most casualties in 2020 were Syria (2729) and Afghanistan (1474).⁵¹

⁴⁶ International Campaign to Ban Landmines (ICBL), *Landmine Monitor 2021* (ICBL-Cluster Munition Coalition: Geneva, Nov. 2021), pp. 1, 8–10, 16. *Landmine Monitor 2021* focuses on the calendar year 2020 with information included up to Oct. 2021 where possible.

⁴⁷ International Campaign to Ban Landmines (note 46), p. 19. The other 7 listed producers are China, Cuba, North Korea, Singapore, South Korea, the USA and Viet Nam.

⁴⁸ E.g. Luke, D., Old Issues, New Threats: Mine Action and IEDs in Urban Environments (LSE Ideas: London, Feb. 2020).

⁴⁹ International Campaign to Ban Landmines (note 46), pp. 1, 11–14.

⁵⁰ International Campaign to Ban Landmines (note 46), p. 2.

⁵¹ International Campaign to Ban Landmines (note 46), pp. 41–43.

APM clearance and stockpile destruction

An estimated 146 square kilometres of land were cleared of APMs in 2020 (compared to 156 km² in 2019) and more than 135 000 APMs were destroyed (compared to 122 000 in 2019).⁵² Clearance operations were temporarily suspended in Angola, Chad, Senegal, Serbia, South Sudan and Zimbabwe in 2020 due to Covid-19-related restrictions.⁵³ In January 2021 the River Jordan was declared mine-free by Israel (not a party to the APM Convention), allowing religious ceremonies to take place there for the first time in more than 50 years.⁵⁴ The 60 states and other areas that are known to have mine contamination include 33 states parties to the APM Convention, Among them are some of the most mine-affected states in the world: Afghanistan. Bosnia and Herzegovina, Cambodia, Croatia, Ethiopia, Iraq, Turkey, Ukraine and Yemen.55

Collectively, states parties of the APM Convention have destroyed more than 55 million stockpiled APMs. Sri Lanka completed the destruction of its landmine stockpile in 2021.⁵⁶ That left only two parties with remaining stockpile-destruction obligations: Greece and Ukraine. The total remaining global stockpile of APMs is estimated to be less than 50 million, down from about 160 million in 1999. With the exception of Ukraine, the largest stockpilers are non-signatories: Russia (26.5 million), Pakistan (6 million), India (4-5 million), China (5 million), Ukraine (3.3 million) and the USA (3 million).57

Treaty-related developments in 2021

The lack of progress at the sixth CCW review conference also applied to landmine-related topics.⁵⁸ Early drafts of the final declaration of the review conference included three paragraphs related to MOTAPM. Among these was a proposal by Ireland to convene a group of experts to meet for three days in 2022 to discuss the implementation of international humanitarian law in relation to MOTAPM. The proposal was blocked by Cuba and Russia, but two other, preambular references to MOTAPM remained.59

⁵² International Campaign to Ban Landmines (note 46), p. 3.

⁵³ International Campaign to Ban Landmines (note 46), pp. 58–61.

⁵⁴ Reuters, 'Mine-free River Jordan shrine ends 50 year wait for Epiphany', 10 Jan. 2021.

⁵⁵ International Campaign to Ban Landmines (note 46), pp. 28-40. On the landmine problem in Ukraine see Flint, J., 'As the threat of war looms in eastern Ukraine, AOAV examines the country's landmine problem', Action on Armed Violence, 7 Dec. 2021.

⁵⁶ APM Convention Implementation Support Unit, 'Nearly 12 000 landmines destroyed by Sri Lanka under the Mine Ban Convention', Press release, 30 Sep. 2021.

⁵⁷ International Campaign to Ban Landmines (note 46), pp. 3, 20–21.

⁵⁸ For a summary of state positions during the general exchange of views on 13–14 Dec. 2021 see Acheson, R., 'Mines', Reaching Critical Will, CCW Report, vol. 9, no. 10 (14 Dec. 2021).

⁵⁹ 6th CCW Review Conference, CCW/CONF.VI/11 (note 5), part II, Final declaration; and Acheson, R., 'Mines and cluster munitions', Reaching Critical Will, CCW Report, vol. 9, no. 13 (17 Dec. 2021).

At its meeting in August 2021, the group of experts of Amended Protocol II continued its discussion of IEDs. ⁶⁰ The focus remained on voluntary exchange of information on national and multilateral measures and on best practices regarding identification, humanitarian clearance and civilian protection from IEDs. The group also agreed to an updated political declaration on IEDs, which was adopted by the annual conference of parties to Amended Protocol II and was welcomed by the CCW review conference. ⁶¹

The 19th meeting of states parties of the APM Convention took place virtually on 15–19 November 2021 due to Covid-19 restrictions. Seven states were granted extensions to their mine-clearance obligations under Article 5: Cyprus (until 2025), the DRC (2025), Guinea-Bissau (2022), Mauritania (2026), Nigeria (2025), Somalia (2027) and Turkey (2025). States parties 'expressed serious concern' that Eritrea remained in non-compliance by not requesting an extension to its 2020 mine-clearance deadline. He USA attended the annual meeting as an observer, as it has done since 2009. In 2020 the US administration of President Donald J. Trump had abandoned the policy of his predecessor of acceding to the treaty at some future date. In 2021 the new US administration was reported to be reviewing the possibility of returning to the former policy.

Armed uncrewed aerial vehicles

UAVs are aircraft without any human pilot, also known as a drones or uncrewed aerial vehicles. UAVs are operated remotely (by a ground- or aircraft-based controller) or are pre-programmed. There are numerous civilian and military applications for UAVs. Military forces are increasingly using them for surveillance, logistics or communication, and armed versions for combat, also referred to as uncrewed combat aerial vehicles (UCAVs). At least 19 states currently operate armed UAVs, with at least another 15 states close to doing so.⁶⁶ Since 2015, at least 11 states—Egypt, Israel, Iraq, Iran, Nigeria, Pakistan, Saudi Arabia, Turkey, the United Arab Emirates, the UK

⁶⁰ Amended Protocol II to the CCW Convention, 23rd Annual Conference, 'Report on improvised explosive devices', CCW/AP.II/CONF.23/2, 11 Nov. 2021.

⁶¹ Amended Protocol II to the CCW Convention, 23rd Annual Conference, Final document, CCW/AP.II/CONF.23/6 (Advance version), 11 Nov. 2021, annex V; and 6th CCW Review Conference, CCW/CONF.VI/11 (note 5), para. 81.

⁶² On the proceedings, documents and statements by states parties see APM Convention, 'Nineteenth Meeting of the States Parties (19MSP)', 15–19 Nov. 2021.

⁶³ For details of each of the requests, additional information submitted by the state party, analysis and decisions see APM Convention, 19th Meeting of the States Parties, Draft final report, APLC/MSP.19/2021/CRP.1, 18 Nov. 2021, sections A–G.

⁶⁴ APM Convention, APLC/MSP.19/2021/CRP.1 (note 63), para. 91.

⁶⁵ Abramson, J., 'Countries grapple with 2025 landmine goal', *Arms Control Today*, vol. 51, no. 10 (Dec. 2021).

⁶⁶ Drone Wars, 'Who has armed drones?', July 2021.

and the USA-are known to have or suspected of having operated armed UAVs for counterterrorism operations, including in some cases for targeted killings. 67 In recent years they have also been deployed in support of armed groups or allied states in proxy wars or over disputed territories, including their decisive use in the Nagorno-Karabakh conflict in 2020.68 Finally, the widespread proliferation of UAV technology has enabled non-state armed groups to carry out attacks using smaller military UAVs or by adapting commercial off-the-shelf UAVs.69

Many of the existing regulatory regimes, such as the Missile Technology Control Regime and the Arms Trade Treaty, are limited in scope and exclude some of the main UAV-producing countries—such as China (not in the MTCR), Turkey (not in the ATT) and Israel (in neither).70 Yet concerns about the humanitarian implications of armed UAVs have been growing and there have been calls from civil society groups and independent experts for a new multilateral process to develop robust standards for the design, export and use of armed UAVs or even to ban them.⁷¹ For example, in 2020 the UN secretary-general and the UN special rapporteur on extrajudicial killings called for the development of robust standards of oversight, transparency and accountability in the use of armed UAVs, and for effective multilateral measures to control their proliferation.⁷²

To date, however, there has been no multilateral discussion to these ends, beyond a US-led process initiated in 2016 towards international standards on the export and subsequent use of armed UAVs.73 In parallel, somewhat contradictory US efforts within the MTCR helped to relax controls to make it easier for US companies to compete in the international military UAV

⁶⁷ United Nations, Human Rights Council, 'Use of armed drones for targeted killings', Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, A/HRC/44/38, 15 Aug. 2020,

⁶⁸ Arraf, J. and Schmitt, E., 'Iran's proxies in Iraq threaten US with more sophisticated weapons', New York Times, 4 June 2021; and Dixon, R., 'Azerbaijan's drones owned the battlefield in Nagorno-Karabakh—and showed future of warfare', Washington Post, 11 Nov. 2020.

⁶⁹ Schmitt, E., 'Papers offer a peek at ISIS' drones, lethal and largely off the shelf', New York Times, 31 Jan. 2017; and Chávez, K. and Swed, O., 'The proliferation of drones to violent nonstate actors', Defence Studies, vol. 21, no. 1 (2021).

 70 On the MTCR see chapter 14, section III, and annex B, section III, in this volume. For a summary and other details of the ATT see annex A, section I, in this volume. On the scope of the ATT see Holtom, P., 'Taking stock of the Arms Trade Treaty: Scope', SIPRI, Aug. 2021.

⁷¹ See e.g. Levenson, M., 'What to know about the civilian casualty files', New York Times, 18 Dec. 2021; Krähenmann, S. and Dvaladze, G., 'Humanitarian concerns raised by the use of armed drones', Geneva Call, 16 June 2020; Callarmard, A. and Rogers, J., 'We need a new international accord to control drone proliferation', Bulletin of the Atomic Scientists, 1 Dec. 2020; and European Forum on Armed Drones, 'Call to action', 7 Apr. 2016.

⁷² United Nations, Security Council, 'Protection of civilians in armed conflict', Report of the Secretary-General, S/2020/366, 6 May 2020, para. 36; and United Nations, A/HRC/44/38 (note 67).

⁷³ Joint Declaration for the Export and Subsequent Use of Armed or Strike-Enabled Unmanned Aerial Vehicles (UAVs), US Department of State, 28 Oct. 2016. See also Enemark, C., 'On the responsible use of armed drones: The prospective moral responsibilities of states', International Journal of Human Rights, vol. 24, no. 6 (2020).

market.⁷⁴ Indeed, these calls for regulation have little apparent support among states. At meetings of the UN General Assembly's First Committee in 2021, only Armenia, Costa Rica, Cuba, the Holy See and Yemen referred to armed UAVs in their statements during the general and thematic debates and, as in previous years, no resolution was proposed on this issue. Armenia and Yemen raised specific concerns about the use of armed UAVs in Nagorno-Karabakh and the Yemeni conflict, respectively.⁷⁵ Similarly, at the CCW review conference, only Panama and Venezuela raised concerns about these weapons and called for the development of new standards.⁷⁶ As states avoid external pressure to restrict use of armed UAVs, future autonomous and swarming UAV capabilities are likely to be even harder to regulate.⁷⁷

The United Nations Programme of Action on Small Arms and Light Weapons

The 2001 UN Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All its Aspects and the 2005 International Instrument to Enable States to Identify and Trace, in a Timely and Reliable Manner, Illicit Small Arms and Light Weapons are politically binding agreements that were negotiated on the basis of consensus under the auspices of the First Committee of the UN General Assembly. These instruments outline steps that states should take at the international, regional and national levels to counter the illicit trade in and diversion of SALW. The UN Office for Disarmament Affairs (UNODA) administers the two instruments, and states voluntarily submit a report every two years that outlines how they implement both the POA and the ITI. In addition, states meet at a biennial meeting of states (BMS) to 'consider' implementation of both instruments and at sexennial review conferences that allow for a more in-depth assessment of the progress made on implementation.

⁷⁴ Stone, M., 'US relaxes rules to export more aerial drones', Reuters, 24 July 2020; and Stone, M., 'Biden wants to keep Trump policy that boosted armed drone exports—sources', Reuters, 25 Mar. 2021. On the MTCR see chapter 14, section III, and annex B, section III, in this volume.

⁷⁵ Muñoz, A., 'Armed drones', Reaching Critical Will, *First Committee Monitor*, vol. 19, no. 4 (22 Oct. 2021).

⁷⁶ Acheson, R., 'Other weapon issues', Reaching Critical Will, *CCW Report*, vol. 9, no. 10 (14 Dec. 2021).

⁷⁷ Verbruggen, M., 'Drone swarms: Coming (sometime) to a war near you. Just not today', *Bulletin of the Atomic Scientists*, 3 Feb. 2021; and Kallenborn, Z., 'Meet the future weapon of mass destruction, the drone swarm', *Bulletin of the Atomic Scientists*, 5 Apr. 2021.

⁷⁸ United Nations, General Assembly, Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All its Aspects (POA), pp. 7–17 of A/CONF.192/15, 20 July 2001; and United Nations, General Assembly, International Instrument to Enable States to Identify and Trace, in a Timely and Reliable Manner, Illicit Small Arms and Light Weapons (International Tracing Instrument, ITI), Decision 60/519, 8 Dec. 2005.

⁷⁹ UN Office for Disarmament Affairs (UNODA), 'Programme of action on small arms and light weapons: National reports', [n.d.].

The seventh BMS (BMS7) took place in a hybrid format on 26-30 July 2021 under the chairmanship of Ambassador Martin Kimani of Kenya. It was originally scheduled to take place on 15-19 June 2020 but was postponed because of the Covid-19 pandemic. Physical meetings took place at the UN Headquarters in New York—with one delegate per state allowed in the room to attend in person-while civil society participation was entirely virtual.80 The discussions and process leading to the final outcome of BMS7 continued to highlight recurring divisions among states on the most contentious issues related to the implementation of both the POA and the ITI. These included controls on ammunition in the scope of the POA, addressing new developments in SALW manufacturing, and creating links between the POA and other international processes.81

The inclusion of controls on ammunition was widely supported across different regional groupings, including members of the Caribbean Community (CARICOM) and of Mercosur (Mercado Común del Sur, Southern Common Market).82 However, it continued to be opposed by a narrow group of states, including the USA, Iran and Egypt among others.83 Despite this resistance, the final outcome document of BMS7 still included two references to ammunition, although these were largely based on language already agreed at the third review conference, in 2018.84 One took note of the ongoing work of the UN governmental expert process considering problems 'arising from the accumulation of conventional ammunition stockpiles in surplus'. 85 The second reference continued to acknowledge that some states explicitly apply the POA to ammunition, adding that these states 'can integrate applicable policies and practices into their [SALW] control efforts with a view to strengthening the implementation of the [POA]'.86

As a result of states' informal consultations on the matter ahead of BMS7, the original draft of the BMS7 outcome document proposed the establishment of an open-ended technical expert group to discuss developments in

⁸⁰ UN Office for Disarmament Affairs (UNODA), 'Aide memoire for non-governmental organizations', 7 July 2021; and International Action Network on Small Arms (IANSA), 'Daily update day 1', BMS7, 26 July 2021.

⁸¹ See e.g. Bromley, M., 'Control measures on small arms and light weapons', SIPRI Yearbook 2019, pp. 471-75; and Davis et al. (note 3), pp. 566-69.

⁸² Mercosur has 5 member states: Argentina; Brazil; Paraguay; Uruguay and Venezuela (suspended

⁸³ International Action Network on Small Arms (note 80); International Action Network on Small Arms (IANSA), 'Daily update day 4', BMS7, 29 July 2021; Geyer, K., Rafferty, J. and Pytlak, A., 'Reporting on statements', Small Arms Monitor, vol. 11, no. 2 (4 Aug. 2021), pp. 15-16; Statement by the Caribbean Community (CARICOM) on agenda item 6, BMS7, 26-30 July 2021; and Statement on behalf of Bolivia, Cuba, Iran, Nicaragua, Syria and Venezuela, BMS7, 26-30 July 2021.

^{84 3}rd POA Review Conference, Report, A/CONF.192/2018/RC/3, 6 July 2018, annex, section I, para. 16, and section II, para. 18.

^{85 7}th POA Biennial Meeting of States, Report, A/CONF.192/BMS/2021/1, 11 Aug. 2021, annex, para. 24.

⁸⁶ 7th POA Biennial Meeting of States, Report, A/CONF.192/BMS/2021/1 (note 85), annex, para. 36.

SALW manufacturing and the development of a good practice document on marking practices for modular and polymer weapons. These proposals have been contested by states on different grounds. For example, the USA argued that the ITI already offers a 'sound framework' to deal with such developments. In addition, others expressed concerns over the potential financial and technical burden of the proposals. The proposal to produce a good practice document was eventually accepted, while states could only agree to 'consider a proposal' to establish an open-ended technical expert group at BMS8, scheduled for 2022. Even this latter and weaker initiative was contested by Iran after the chair presented the final outcome document on the final day of BMS7. In an attempt to erase any reference to the possibility to advance discussions on the matter at BMS8, Iran—breaking consensus—called a vote on this specific paragraph, which was eventually adopted. It

The inclusion in the outcome document of explicit references to the synergies between the POA and other relevant international, legally binding instruments, such as the ATT and the 2001 UN Firearms Protocol, continued to be resisted by states that are not parties to these instruments and no real progress was made on this matter. In contrast, BMS7 agreed on several gender-related provisions which call for, among other things, gender-balanced participation in relevant decision-making processes and information sharing on practices to mainstream gender perspectives

^{87 7}th POA Biennial Meeting of States, Informal Consultations on Opportunities and Challenges Presented by Recent Developments in Small Arms and Light Weapons Manufacturing, Technology and Design, Facilitator's summary, 25 June 2021; and 7th POA Biennial Meeting of States, Outcome document, Draft 3, A/CONF.192/BMS/2021/CRP.2, 19 July 2021, paras 90, 92, annexed to letter from Kimani, M., BMS7 Chair-designate, 19 July 2021.

⁸⁸ Costner, S. R., USA, 'Thematic discussion on implementation of the UN International Tracing Instrument at the seventh Biennial Meeting of States (agenda item 7)', 27 July 2021; and International Action Network on Small Arms (note 83).

⁸⁹ International Action Network on Small Arms (note 83). See also Statement by Algeria, BMS7, 26–30 July 2021; Statement by Cuba, BMS7, 27 July 2021 (in Spanish); and Statement on behalf of Bolivia, Cuba, Iran, Nicaragua, Syria and Venezuela on agenda item 8, BMS7, 26–30 July 2021.

⁹⁰ 7th POA Biennial Meeting of States, A/CONF.192/BMS/2021/1 (note 85), annex, paras 42, 45, 47, 92, 94; and Rafferty, J. and Pytlak, A., 'Overview and analysis of the BMS7 outcome document', *Small Arms Monitor*, vol. 11, no. 2 (4 Aug. 2021), pp. 6–7.

⁹¹ Pytlak, A., 'Act today for a better tomorrow', *Small Arms Monitor*, vol. 11, no. 2 (4 Aug. 2021), p. 1; and International Action Network on Small Arms (IANSA), 'Daily update day 5', BMS7, 30 July 2021, p. 2.

p. 2.

92 International Action Network on Small Arms (note 83); Arms Trade Treaty (note 70); and Protocol against the Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition, Supplementing the United Nations Convention against Transnational Organized Crime (UN Firearms Protocol), opened for signature 2 July 2001, entered into force 3 July 2005. See also Statement on behalf of Bolivia, Cuba, Iran, Nicaragua, Syria and Venezuela on agenda item 9, BMS7, 29 July 2021; Statement by Egypt, BMS7, 29 July 2021 (in Arabic); and 7th POA Biennial Meeting of States, A/CONF.192/BMS/2021/1 (note 85), annex, para. 54.

into SALW control policies.93 Notably, BMS7 also linked the POA with the implementation of the Women and Peace and Security Agenda and with 'all relevant Goals and targets' of the 2030 Agenda for Sustainable Development, which had been opposed during the third review conference.⁹⁴ The inclusion of gender-oriented provisions in the final document remained contested by a few delegations, including Russia, which openly distanced themselves from such language.95

BMS7 highlighted both long-standing and emerging limitations in the POA decision-making processes. Politicized discussions made it difficult to achieve consensus on the final outcome and, thus, the realization of more ambitious results.96 Further, the exclusion of civil society representatives from in-person meetings in New York was a step backwards in terms of transparency and inclusivity in POA processes. In addition to technical problems that at times affected the functioning of the online streaming, much time at BMS7 was spent on confidential, and thus offline, consultations among states. 97 BMS8 is scheduled to take place in 2022. This confronts states with two procedural challenges: finding ways to involve civil society in relevant meetings and preparing for the meeting in a more limited amount of time than usual

^{93 7}th POA Biennial Meeting of States, A/CONF.192/BMS/2021/1 (note 85), annex, paras 10, 52, 73–79. See also Rafferty and Pytlak (note 90), pp. 6–7; and International Action Network on Small Arms (IANSA), Quick Guide: Results of the Seventh Biennial Meeting of States to Consider the Implementation of the Programme of Action (PoA) (IANSA: New York, 1 Oct. 2021), pp. 3-4.

^{94 7}th POA Biennial Meeting of States, A/CONF.192/BMS/2021/1 (note 85), annex, paras 68, 73; and UN General Assembly Resolution 70/1, 'Transforming our world: The 2030 Agenda for Sustainable Development', 25 Sep. 2015. See also Bromley (note 81), pp. 471-75.

⁹⁵ International Action Network on Small Arms (note 91); and Pytlak (note 91), p. 3.

⁹⁶ Pytlak (note 91), pp. 1-2.

⁹⁷ Pytlak (note 91), p. 4; and International Action Network on Small Arms (note 93), p. 7.