

I. Global instruments for conventional arms control

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Introduction

Conventional arms control by states usually falls within one of two broad approaches: limiting and/or prohibiting weapons considered to be inhumane or indiscriminate; or regulating and managing weapons procurement, production, transfers and trade, with a view to preventing their destabilizing accumulation, diversion and/or misuse. There are five main global instruments for regulating the production, trade and/or use of conventional weapons: (a) the 1981 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects (the CCW Convention); (b) the 1997 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (the APM Convention); (c) the 2001 United Nations Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All its Aspects (the UN POA); (d) the 2008 Convention on Cluster Munitions (CCM); and (e) the 2013 Arms Trade Treaty (ATT).

This section reviews the key developments and negotiations that took place in four of these instruments in 2019. The ATT is discussed in chapter 14. This section also reviews efforts to create new global instruments governing cyberspace and the use of explosive weapons in populated areas (EWIPA). The two other sections in this chapter provide more detailed discussions on efforts to regulate lethal autonomous weapon systems (LAWS, section II) and prevent an arms race in outer space (section III).

The CCW Convention

The CCW Convention and its five protocols ban or restrict the use of specific types of weapon that are considered to cause unnecessary or unjustifiable suffering to combatants or to affect civilians indiscriminately.¹ It is a so-called umbrella treaty, to which specific agreements can be added in the form of protocols (see box 13.1). As of the end of December 2019 there were 125 states parties to the original convention and its protocols. No new states joined the CCW in 2019. Not all the states parties have ratified all the amended or additional protocols.²

¹ For a summary of the CCW Convention see annex A, section I, in this volume.

² For details of the states parties that have ratified the amended or additional protocols see annex A, section I, in this volume

Box 13.1. The Certain Conventional Weapons Convention

The Certain Conventional Weapons (CCW) Convention originally contained three protocols: prohibiting the use of weapons that employ fragments not detectable in the human body by X ray (Protocol I); regulating the use of landmines, booby traps and similar devices (Protocol II); and limiting the use of incendiary weapons (Protocol III). In subsequent years, states added two protocols: Protocol IV prohibiting the use and transfer of blinding laser weapons was added in 1995; and Protocol V on explosive remnants of war (ERW)—landmines, unexploded ordnance and abandoned explosive ordnance—in 2003. In addition, amendments have expanded and strengthened the convention. Amended Protocol II, for example, places further constraints on the use of anti-personnel mines (APMs), while the scope of the convention was expanded in 2001 to situations of intra state armed conflict. Because Amended Protocol II fell short of a ban on the use of landmines, a parallel process outside of the CCW Convention led to the creation of the APM Convention.

The CCW Convention is also important for addressing the challenges posed by the development or use of new types of weapons and their systems with respect to international humanitarian law (IHL). 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. In particular, this approach strives to increase the protection of civilians by reducing the human and environmental impacts of arms.³ In recent years, however, there have been increasing tensions between the prioritization of humanitarian demands and the perceived military needs of certain states, with the result that many of the discussions on the convention have become deadlocked.⁴

Meetings of states parties

The states parties to the CCW Convention meet regularly at an annual Meeting of the High Contracting Parties and at a Review Conference, which takes place every fifth year. These meetings also consider the work of the Group of Governmental Experts (GGE) established in 2001, which has been convened in various formats since then. Amended Protocol II and Protocol V have their own implementation processes, which function in parallel with the CCW Convention. There were seven CCW-related meetings in 2019 (see table 13.1).

³ See the discussions on humanitarian disarmament in Anthony, I., ‘International humanitarian law: ICRC guidance and its application in urban warfare’, *SIPRI Yearbook 2017*, pp. 545–53; 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, *International Humanitarian Law and the Challenges of Contemporary Armed Conflicts: Recommitting to Protection in Armed Conflict on the 70th Anniversary of the Geneva Conventions* (ICRC: Geneva, Oct. 2019).

⁴ See 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 in 2017 and 2018 in Davis and Verbruggen (note 3), pp. 381–92 and Boulanin, V., Davis, I. and Verbruggen, M., ‘The Convention on Certain Conventional Weapons and lethal autonomous weapon systems’, *SIPRI Yearbook 2019*, pp. 449–61.

The Thirteenth Annual Conference of the High Contracting Parties to Protocol V discussed the report of the June 2018 meeting of experts, which focused on universalization of the protocol, national reporting, clearance of ERW, victim assistance and the practical implementation of Article 4 of Protocol V on the recording, retaining and transmission of information.⁵ There were no significant new proposals and the conference agreed to continue to focus its work on these topics in 2020.⁶

The Twenty-first Annual Conference of the High Contracting Parties to Amended Protocol II reviewed the status and operation of the protocol and considered matters arising from the national annual reports of states parties.⁷ As was the case in 2018, the meeting also issued an appeal for the universalization of the protocol and considered a report by the group of experts on improvised explosive devices (IEDs).⁸ Despite the increasing saliency of the IED threat (see below on the APM Convention and EWIPA), no significant new measures were agreed. Instead, the focus remained on voluntary information exchange on national measures and best practices regarding identification, humanitarian clearance and civilian protection from IEDs.

The 2019 Meeting of the High Contracting Parties was held in Geneva on 13–15 November 2019, chaired by Pakistan. The meeting reviewed compliance with and progress towards the universalization of the CCW Convention. The three substantive issues on the agenda were: (a) LAWS (see section II); (b) incendiary weapons; and (c) mines other than anti-personnel mines (MOTAPM). Some limited discussions also took place on EWIPA but because certain governments have prevented it from being a formal agenda item, the main impetus on that issue has shifted to a new political process begun outside of the CCW by Austria and Ireland (see below). The states parties endorsed the guiding principles affirmed by the GGE on LAWS and

⁵ United Nations, Thirteenth Conference of the High Contracting Parties to Protocol V on Explosive Remnants of War to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which May be Deemed to be Excessively Injurious or to have Indiscriminate Effects, 11 Nov. 2019, 'Report on the 2019 Meeting of Experts of the High Contracting Parties to Protocol V', CCW/PV/CONF/2019/2, 7 Oct. 2019.

⁶ United Nations, Thirteenth Conference of the High Contracting Parties to Protocol V on Explosive Remnants of War to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects, 19 Nov. 2019, 'Final document', CCW/PV/CONF/2019/5, 11 Nov. 2019.

⁷ United Nations, Twenty-first Annual Conference of the High Contracting Parties to Amended Protocol II to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects, 'Final Document', 12 Nov. 2019.

⁸ United Nations, Twenty-first Annual Conference of the High Contracting Parties to Amended Protocol II to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects, 'Report on improvised explosive devices', 26 Sep. 2019. See also the discussion on IEDs in Davis and Verbruggen (note 3), pp. 387–88.

Table 13.1. The Certain Conventional Weapons Convention meetings in 2019

Dates	Meeting
25–29 March	GGE on LAWS
20–21 August	GGE on LAWS
22 August	Amended Protocol II Group of Experts
23 August	Protocol V meeting of experts
11 November	13th Annual Conference of the HCP to Protocol V
12 November	21st Annual Conference of the HCP on Amended Protocol II
13–15 November	Meeting of the High Contracting Parties

GGE = Governmental Group of Experts; HCP = High Contracting Parties; LAWS = Lethal Autonomous Weapon Systems.

Note: All meetings took place in Geneva.

agreed the group's schedule of meetings for 2020–21. As in 2017 and 2018, the meeting also agreed to place 'emerging issues in the context of the objectives and purposes of the Convention' on the agenda of its next meeting, with an open invitation to states parties to submit relevant working papers.⁹

While no meetings were cancelled for financial reasons in 2019, as had been the case in 2017, the CCW's continuing funding problems were a key theme of discussions. Following proposals from the chair to address structural and cash flow-related issues, including funding of the CCW Implementation Support Unit, the states parties agreed several financial measures, including the creation of a voluntary Working Capital Fund to provide liquidity during the financial year.¹⁰

Overall, as in recent years, there was little progress due to the lack of consensus, and a handful of states obstructed advances in most of the CCW agenda. Despite the fact that the CCW has traditionally operated in an inclusive and transparent manner, the 2019 final report was negotiated behind closed doors.¹¹ The Sixth Review Conference of the CCW will take place on 13–17 December 2021.

Incendiary weapons

Protocol III to the CCW Convention prohibits the use of any incendiary weapons on civilian objects and the use of air-dropped incendiary weapons on military objects in residential areas. However, its restrictions have

⁹ Meeting of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects, Geneva, Final report, CCW/MSP/2019/9, 13 Dec. 2019

¹⁰ Meeting of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects, Geneva, 13–15 Nov. 2019, 'Further suggested measures that could be considered to improve the stability of the Secretariat's support to the Convention and on financial issues related to the Convention and its annexed Protocols', 12 Nov. 2019, CCW/MSP/2019/CRP.1. See also Geyer, K., 'Financial issues', *CCW Report*, vol. 7, no. 8, Reaching Critical Will (17 Nov. 2019).

¹¹ Acheson, R., 'The CCW is still standing, but to what end?', *CCW Report*, vol. 7, no. 8, Reaching Critical Will (17 Nov. 2019).

failed to prevent civilian harm from such use in recent years, notably in Syria, Ukraine and Yemen. The protocol has two major loopholes: weaker regulation of ground-launched incendiary weapons in comparison with air-dropped models; and inadequate wording on multipurpose munitions that can be used for several purposes on the battlefield, such as those containing white phosphorus which can be used as an obscurant or smokescreen, for signalling and marking, but also as an incendiary weapon.

Syria is not a state party to Protocol III and is therefore not bound by its restrictions. The Syrian Government has been using Russian-made or Soviet-era incendiary weapons since 2012. Incendiary weapon attacks in Syria became more frequent after Russia, which is a state party to the protocol, began joint operations with Syria in 2015.¹² In 2019 Human Rights Watch (HRW) documented the continued use of incendiary weapons in or near civilian areas in Syria in joint military operations by the Syrian-Russian military alliance. In May–June 2019, for example, incendiary weapons were used at least 27 times, mostly in Idlib governorate. Since November 2012, HRW has identified about 150 incendiary weapon attacks in Syria, but the total number is likely to be higher.¹³ HRW is also looking into allegations that white phosphorus was used in Syria by Turkey and its allies in October 2019.¹⁴

Discussions on incendiary weapons in the CCW began in the wake of Israel's use of white phosphorus in Gaza in 2009.¹⁵ Several states, along with the International Committee of the Red Cross (ICRC), the UN secretary-general and many non-governmental organizations (NGOs), have condemned more recent incendiary weapon attacks and called for Protocol III to be revisited and strengthened.¹⁶ It was an agenda item at the 2017 and 2018 CCW meetings but at the latter meeting, Russia, with some backing from China and Cuba, blocked proposals to keep it as a separate agenda item for the 2019 meeting.¹⁷ Nonetheless, at least 14 states parties condemned or expressed concern about the use of incendiary weapons during the meeting, and reiterated their calls for dedicated CCW discussions to strengthen the protocol. However, states parties failed to reinstate this as an agenda item for 2020 because two—Russia and the United States—publicly opposed it. The

¹² For more information on the use of incendiary weapons in Syria, see Human Rights Watch and International Human Rights Clinic, 'An overdue review: Addressing incendiary weapons in the contemporary context', Memorandum to delegates at the Meeting of States Parties to the Convention on Conventional Weapons, Nov. 2017, pp. 14–18. On the armed conflict in Syria, see chapter 6, section II, in this volume.

¹³ Human Rights Watch, 'Standing firm against incendiary weapons: Memorandum to delegates of the Meeting of States Parties to the Convention on Conventional Weapons', Nov. 2019.

¹⁴ 'Kurds accuse Turkey of using napalm and white phosphorus', France 24, 24 Oct. 2019.

¹⁵ Human Rights Watch, 'Rain of fire: Israel's unlawful use of white phosphorus in Gaza', 25 Mar. 2009.

¹⁶ See the discussion on incendiary weapons in Davis et al. (note 4), pp. 556–57; and Davis and Verbruggen (note 4), pp. 388–89.

¹⁷ On developments in 2018, see Boulain, Davis and Verbruggen (note 3), pp. 460–61.

final report reflected both the widespread concern over use of incendiary weapons and the divisions over how to proceed.¹⁸

Mines other than anti-personnel mines

Discussions on MOTAPM were focused on anti-vehicle mines (AVMs), which include anti-tank mines. The most recent data indicate an 18 per cent increase in AVM incidents in 2018, leading to 569 reported casualties, 53 per cent of them civilian, in 23 states.¹⁹ It is a topic that has been discussed within the CCW Convention for over a decade, but without any consensus among states parties on how to move the debate forward. Two informal open consultation meetings in 2018 were unable to bridge the differences, although the chair's report recommended the continuation of informal consultations in 2019.²⁰ As was the case with incendiary weapons, however, while the majority of states participating in the 2019 discussions on MOTAPM expressed concern at the humanitarian impact of their indiscriminate and disproportionate use, two states—Russia and Belarus—argued against any further restrictions.²¹ Indeed, the final CCW report failed to even mention MOTAPM.

The Anti-Personnel Mines Convention

In 2019, the APM Convention celebrated the 20th anniversary of its entry into force on 1 March 1999 and held its Fourth Review Conference. The convention prohibits, among other things, the use, development, production and transfer of APMs. These are mines that detonate on human contact, that is they are 'victim-activated', and therefore encompass IEDs that act as APMs, also known as 'improvised mines'.²² At the Third Review Conference in 2014, states parties set a target of fully eliminating APMs and addressing the consequences of past use by 2025.

While compliance with the APM Convention has generally been good, it continues to be undermined by the refusal of some states, such as China, Iran, Israel, the Democratic People's Republic of Korea (DPRK, North Korea), Russia, Saudi Arabia and the USA, to sign it. There are currently 164 states parties to the APM Convention. These include all the European Union (EU)

¹⁸ Docherty, B., 'Incendiary weapons', *CCW Report*, vol. 7, no. 8, Reaching Critical Will (17 Nov. 2019); and Meeting of the High Contracting Parties to the CCW Convention, Final report (note 9).

¹⁹ Hofmann, U. et al., 'Global mapping and analysis of anti-vehicle mine incidents in 2018', Geneva International Centre for Humanitarian Demining and SIPRI, June 2019.

²⁰ Meeting of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects, Geneva, 'Mines other than Anti-Personnel Mines', report of the Chairperson-elect, 2 Nov. 2018, CW/MSP/2018/3.

²¹ Geyer, K., 'Mines other than anti-personnel mines', *CCW Report*, vol. 7, no. 8, Reaching Critical Will (17 Nov. 2019).

²² IEDs are also discussed in the CCW Convention, see above, and in the UN General Assembly First Committee, including through the submission of resolutions.

member states, every state in sub-Saharan Africa and every state in the Americas apart from Cuba and the USA. Only 33 states remain outside the treaty.²³ No new states joined in 2019.

Production and use of APMs in 2019

New uses of APMs by states are now extremely rare. According to *Landmine Monitor, 2019*, only Myanmar—a state outside the treaty—is recorded as having used APMs in the period October 2017 to October 2019, and has been deploying them for the past 20 years.²⁴ More than 50 states have produced APMs in the past, but only 11 are currently identified as producers by the International Campaign to Ban Landmines (ICBL) and only three of those (India, Myanmar and Pakistan) are thought likely to be actively producing.²⁵ 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. APMs were used by such groups in at least six states between mid-2018 and October 2019: Afghanistan, India, Myanmar, Nigeria, Pakistan and Yemen. There were also unconfirmed allegations of use by non-state armed groups in seven other states: Cameroon, Colombia, Libya, Mali, the Philippines, Somalia and Tunisia.²⁶

In 2018, the last year for which data is available, the ICBL recorded 6897 casualties linked to mines/ERW, of which at least 3059 were fatal and the majority (71 per cent) were civilian. This marked a fourth successive year of exceptionally high casualties, albeit lower than in 2016 and 2017. It was also the third year in a row in which the highest number of annual casualties was caused by improvised mines, and 2018 was the year with the most improvised mine casualties recorded to date (3789 casualties). The three states with the most casualties in 2018 were Afghanistan (2234), Syria (1465) and Yemen (596). The three states with the most casualties in the 20-year period 1999–2018 were Afghanistan (27 670), Colombia (10 869) and Cambodia (8802).²⁷

²³ For a summary of the APM Convention see annex A, section I, in this volume.

²⁴ International Campaign to Ban Landmines–Cluster Munition Coalition (ICBL–CMC), *Landmine Monitor, 2019* (ICBL–CMC: Geneva, Nov. 2019), pp. 1, 8–10. The report focuses on the calendar year 2018 with information included up to Nov. 2019 wherever possible.

²⁵ The other 8 listed producers are: China, Cuba, Iran, North Korea, Russia, Singapore, South Korea and Viet Nam. International Campaign to Ban Landmines–Cluster Munition Coalition (note 24), pp. 15–16.

²⁶ International Campaign to Ban Landmines–Cluster Munition Coalition (note 24), pp. 1, 8–14.

²⁷ International Campaign to Ban Landmines–Cluster Munition Coalition (note 24), pp. 2, 53–64. In Afghanistan, the problem spans several decades, see Fiederlein, S. and Rzegocki, S., 'The human and financial costs of the Explosive Remnants of War in Afghanistan', Costs of War Project, Brown University, 19 Sep. 2019.

Clearance and destruction measures

In 2018 nearly \$700 million was contributed by donors and affected states to international support for mine action—the clearance of landmines and other ERW in order to release land back to the community. This is the second-highest amount in more than two decades. The top five mine action donors—the USA, the EU, the United Kingdom, Norway and Germany—contributed 71 per cent of all international funding in 2018.²⁸

In the five-year period 2014–18, an estimated 800 square kilometres of land was cleared of landmines and at least 661 491 landmines were destroyed. Since the APM Convention entered into force, 33 states and areas have completed clearance of all APMs from their territory. Among the 59 states and other areas that are known to have mine contamination, 33 are states parties to the APM Convention. These include some of the most mine-affected states in the world: Afghanistan, Angola, Bosnia and Herzegovina, Cambodia, Chad, Croatia, Iraq, Thailand, Turkey and Yemen. As of October 2019, 29 of the 33 states parties had deadlines to meet their mine clearance obligations before 2025, although Yemen (current deadline March 2023) and Bosnia and Herzegovina (current deadline March 2021) have both requested interim extensions to enable them to better define their remaining contamination. Four states parties had deadlines after 2025: Croatia (2026), Iraq (2028), Palestine (2028) and Sri Lanka (2028).²⁹

Collectively, states parties have destroyed more than 55 million stockpiled APMs. More than 1.4 million were destroyed in 2018. Only three states parties have remaining stockpile destruction obligations: Greece, Sri Lanka and Ukraine. On 6 January 2019, following its eighth and final destruction, of 2485 stockpiled APMs, the non-state armed group Polisario Front of Western Sahara destroyed the last of its 20 493 stockpiled mines.³⁰

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 (3.5 million) and the USA (3 million).³¹

The Fourth Review Conference of the APM Convention

The Fourth Review Conference of the APM Convention was held in Oslo on 25–29 November 2019, following two preparatory meetings on 24 May 2019

²⁸ International Campaign to Ban Landmines–Cluster Munition Coalition (note 24), pp. 2–3, 83–96.

²⁹ International Campaign to Ban Landmines–Cluster Munition Coalition (note 24), pp. 3–4, 25–52.

³⁰ Geneva Call, 'Final destruction of 2,485 stockpiled anti-personnel mines in Western Sahara', Press release, 22 Jan. 2019.

³¹ International Campaign to Ban Landmines–Cluster Munition Coalition (note 24), pp. 4–5, 17–18.

and 18 September 2019.³² The review conference assessed existing progress in all areas and adopted the Oslo Political Declaration and Oslo Action Plan, 2020–24 to guide efforts for the next five years to achieve a mine-free world. The plan adopts a gender perspective, advances mine risk education to prevent new casualties and challenges states parties to increase the pace of mine clearance.³³ Seven states parties—Argentina, Cambodia, Chad, Eritrea, Ethiopia, Tajikistan and Yemen—requested and were granted extensions to their mine clearance deadlines that all fell within the global 2025 mine-free target.³⁴

The Convention on Cluster Munitions

The 2008 Convention on Cluster Munitions (CCM) is an international treaty of more than 100 states, among which are former major producers and users as well as affected states. It addresses the humanitarian consequences of, and unacceptable harm to civilians caused by, cluster munitions—air-dropped or ground-launched weapons that release a number of smaller submunitions intended to kill enemy personnel or destroy vehicles. There are three main criticisms of cluster munitions: they disperse large 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.³⁵ The CCM establishes an unconditional prohibition and a framework for action.³⁶ It also requires the destruction of stockpiles within eight years, the clearance of areas contaminated by cluster munition remnants within 10 years and the provision of assistance for victims of such weapons.

In 2019, the CCM gained two additional member states: the Philippines ratified the convention on 3 January 2019 and the Maldives acceded on 27 September 2019. As of 31 December 2019, the CCM had 107 states parties and 14 signatory states. In December 2019, 144 states, including 32 non-signatories to the convention, voted to adopt the fifth UN General Assembly resolution supporting the CCM.³⁷ The resolution provides states outside of the CCM with an important opportunity to indicate their sup-

³² For details of the proceedings, documents and statements by states parties, see Anti-Personnel Mine Ban Convention, Fourth Review Conference, Oslo, 25–29 Nov. 2019.

³³ Fourth Review Conference of the States Parties to the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, Oslo, 26–29 Nov. 2019, 'Final document', APLC/CONF/2019/5, 9 Dec. 2019.

³⁴ For details of each of the requests, additional information submitted by the state party, analysis and decisions, see Fourth Review Conference (note 33).

³⁵ Congressional Research Service (CRS), *Cluster Munitions: Background and Issues for Congress*, CRS Report to Congress RS22907 (CRS: Washington, DC, 2019).

³⁶ For a summary of the Convention on Cluster Munitions see annex A, section I, in this volume.

³⁷ UN General Assembly Resolution 74/62, General and complete disarmament: Implementation of the Convention on Cluster Munitions, 12 Dec. 2019.

port for the humanitarian rationale behind the treaty and the objective of its universalization. For the fifth consecutive year, Zimbabwe was the only state to vote against the resolution, while 38 other states abstained (as was the case in 2018).³⁸

Use and production of cluster munitions in 2019

No state party has used cluster munitions since the CCM was adopted and most of the states still outside of the convention abide de facto by the ban on the use and production of the weapon. Despite international condemnation, however, there was continued use of cluster munitions in Syria in 2019, albeit at decreasing levels. According to *Cluster Munition Monitor, 2019* there were at least 38 cluster munition attacks in the 12 months to June 2019, mostly carried out by the armed forces of the Syrian Government, and at least 674 cluster munition attacks were reported between July 2012 and June 2019.³⁹ There were also unverified allegations of cluster munition use in Libya.⁴⁰

Sixteen states, none of which are states parties to the CCM Convention, are listed as producers of cluster munitions, although a lack of transparency means that it is unclear whether any of them were actively producing munitions in 2019.⁴¹

Destruction and clearance measures

As of July 2019, 35 of the 41 states parties that possessed stockpiles had completed the destruction of their stockpiles. This destruction of nearly 1.5 million stockpiled cluster munitions containing 178 million submunitions represents the destruction of 99 per cent of all the cluster munitions and submunitions declared as stockpiled under the CCM. Six states parties—Bulgaria, Guinea, Guinea-Bissau, Peru, Slovakia and South Africa—still have a combined total of nearly 12 000 stockpiled cluster munitions to destroy. Botswana and Switzerland were the most recent states parties to complete destruction of their stockpiled cluster munitions, in September 2018 and March 2019 respectively.⁴² Guinea-Bissau failed to meet its stockpile destruction deadline of 1 May 2019 and is now in violation of the convention.

³⁸ Convention on Cluster Munitions, '2019 UNGA resolution on the implementation of the Convention on Cluster Munitions', [n.d.] For a summary of the debates on the CCM in the General Assembly First Committee, see Vičentić, J., 'Cluster munitions', *First Committee Monitor*, vol. 17, no. 6, Reaching Critical Will (9 Nov. 2019), p. 14.

³⁹ *Cluster Munition Monitor, 2019* focuses on calendar year 2018, with information included to August 2019 where possible. International Campaign to Ban Landmines–Cluster Munition Coalition (ICBL–CMC), *Cluster Munition Monitor, 2019* (ICBL–CMC: Geneva, Aug. 2019), pp. 12–15. On the conflict in Syria, see chapter 6, section II, in this volume.

⁴⁰ International Campaign to Ban Landmines–Cluster Munition Coalition (note 39), pp. 14–15.

⁴¹ The countries are: Brazil, China, Egypt, Greece, India, Iran, Israel, North Korea, South Korea, Pakistan, Poland, Romania, Russia, Singapore, Turkey and the USA. International Campaign to Ban Landmines–Cluster Munition Coalition (note 39), pp. 16–17.

⁴² International Campaign to Ban Landmines–Cluster Munition Coalition (note 39), pp. 18–25.

Bulgaria submitted a request to extend its stockpile destruction deadline by 18 months to 1 April 2021. It is the first state party to make such a request.⁴³ It is not possible to provide a global estimate of the quantity of cluster munitions currently stockpiled by non-signatories to the CCM as too few have disclosed information on the types and quantities they possess.

Conflict and insecurity made the clearance of cluster munitions more challenging in several states in 2019. An accurate estimate of the total size of the contaminated area is not possible because the extent of contamination and the progress of clearance are difficult to identify in many states, especially non-signatory states. At least 26 states and three other areas remain contaminated by cluster munitions.⁴⁴ Eight states parties have so far completed clearance of areas declared contaminated under the CCM.⁴⁵ For the first time, two states parties requested five-year extensions (to August 2025) to their clearance deadlines: Germany, to clear a former military training area; and Laos, which is one of the countries in the world most contaminated by cluster munitions.⁴⁶

Ninth Meeting of States Parties to the CCM

The Ninth Meeting of States Parties to the CCM was due to take place in Geneva on 2–4 September 2019 under the presidency of Sri Lanka, but was shortened to two days due to a lack of funds.⁴⁷ It was the fourth formal meeting since the adoption of the 2015 Dubrovnik Action Plan, a five-year plan that provides a roadmap for states to implement and universalize the

⁴³ Convention on Cluster Munitions, Article 3 extension request by the Republic of Bulgaria, 24 Apr. 2019.

⁴⁴ The states parties with cluster munition remnants are: Afghanistan, Bosnia and Herzegovina, Chad, Chile, Croatia, Germany, Iraq, Laos, Lebanon, Montenegro, Somalia and the United Kingdom; signatory: Angola; non-signatories: Azerbaijan, Cambodia, Georgia, Iran, Libya, Serbia, South Sudan, Sudan, Syria, Tajikistan, Ukraine, Viet Nam and Yemen; other areas: Kosovo, Nagorno-Karabakh and Western Sahara. International Campaign to Ban Landmines–Cluster Munition Coalition (note 39), pp. 37–41.

⁴⁵ Albania, the Democratic Republic of the Congo, Grenada, Guinea-Bissau, Mauritania, Mozambique, Norway and Zambia. International Campaign to Ban Landmines–Cluster Munition Coalition (note 39), p. 38.

⁴⁶ Convention on Cluster Munitions, Extension request of the Federal Republic of Germany in the context of its obligations under Article 4 of the Convention on Cluster Munitions, Former Soviet military training area Wittstock, Jan. 2019; Convention on Cluster Munition Article 4 Extension Request, Executive summary, 26 Feb. 2019; and Convention on Cluster Munitions, ‘Extension requests to be considered at the 9MSP’, [n.d.].

⁴⁷ Convention on Cluster Munitions, Letter from the President of the Ninth Meeting of the States Parties to the Convention on Cluster Munitions (CCM) to the States Parties, 28 June 2019; and Convention on Cluster Munitions, ‘Draft Provisional Annotated Programme of Work’, 3 July 2019.

CCM.⁴⁸ In the final report of the meeting, as was the case in the previous year, states parties ‘expressed their strong concern regarding recent incidents and evidence of use of cluster munitions in different parts of the world’ and ‘condemned any use by any actor’. They also expressed satisfaction at the progress made with the implementation of the Dubrovnik Action Plan. The meeting approved Bulgaria’s request for an extension of its destruction deadline, but for 12 months rather than the 18 months requested; and the requests by Germany and Laos for a five-year extension to their clearance deadlines.⁴⁹ Concerns about the financial status of the CCM were also discussed, but action was deferred until the Second Review Conference in 2020.⁵⁰

Efforts to create new global instruments

In addition to the existing global frameworks for conventional arms control discussed above, there are also a number of other processes and political instruments at various stages of development. Two efforts are highlighted below: the development of a political declaration on EWIPA; and international discussions to develop ‘rules of the road’ for state activity in the fifth domain of warfare: cyberspace.⁵¹

Towards a political declaration on explosive weapons in populated areas

After many years of seeking to address EWIPA issues within the framework of the CCW Convention, a separate process gathered momentum in 2019 with the aim of developing a political declaration to reinforce existing commitments under IHL.⁵² Such a declaration would aim to set new international standards on the use of explosive weapons in towns and cities,

⁴⁸ The Dubrovnik Action Plan was adopted at the First Review Conference of the Convention on Cluster Munitions, Dubrovnik, Croatia, on 11 Sep. 2015. For the text of the plan see <http://www.clusterconvention.org/wp-content/uploads/2016/04/The-Dubrovnik-Action-Plan.pdf>. For an update on progress, see Convention on Cluster Munitions, Ninth Meeting of States Parties, ‘Progress report monitoring progress in implementing the Dubrovnik Action Plan’, Submitted by the President of the Ninth Meeting of States Parties, CCM/MSP/2019/11, 5 July 2019.

⁴⁹ Convention on Cluster Munitions, Final Report, CCM/MSP/2019/13, 18 Sep. 2019. See also the coverage of the meeting on the website of the CCM Implementation Support Unit, ‘The Ninth Meeting of States Parties’, [n.d.].

⁵⁰ Convention on Cluster Munitions, ‘Possible measures to address financial predictability and sustainability of the Convention on Cluster Munitions’, CCM/MSP/2019/5, 1 July 2019.

⁵¹ In 2010, *The Economist* declared that ‘warfare has entered the fifth domain: cyberspace’. ‘Cyberwar: War in the fifth domain’, *The Economist*, 1 July 2010. The other four domains are land, sea, air and space. See also Clarke, R. A. and Knake, R. K., *The Fifth Domain: Defending Our Country, Our Companies, and Ourselves in the Age of Cyber Threats* (Penguin Press: New York, 2019).

⁵² For earlier discussions on EWIPA in the CCW Convention, see Anthony, I., ‘A relaunch of conventional arms control in Europe’, *SIPRI Yearbook 2017*, pp. 557–58; Davis and Verbruggen (note 3); and Boulanin, Davis and Verbruggen (note 4).

which could in turn drive changes in military practice at the policy and operational levels.

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 are civilian rather than combatants.⁵³ According to Action on Armed Violence (AOAV), there were 6478 civilian deaths and 12 908 injuries linked to explosive weapons in 2019—a reduction in civilian deaths compared to 2018 (9615), but an increase in the total number injured (12 720 in 2018). The vast majority of casualties occurred when explosive weapons were used in populated areas and the highest numbers were recorded in Syria, Afghanistan, Yemen, Somalia and Libya.⁵⁴ The continuing use of explosive weapons in the eight-year-long Syrian war, for example, has led to massive ERW contamination and devastating humanitarian impacts, as well as acute challenges with regard to access to health care, and social and economic deprivation.⁵⁵

The International Network on Explosive Weapons (INEW), an NGO partnership formed in 2011, was the first to articulate this as an issue that demanded attention, and its efforts 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 such harm.⁵⁶ One of the three principal themes of the UN secretary-general's May 2018 disarmament agenda was a new focus on 'disarmament that saves lives'. This included efforts to 'rein in' the use of EWIPA with wide-area impacts by supporting 'the efforts of Member States to develop a political declaration, as well as appropriate limitations, common standards and operational policies in conformity with international humanitarian law'.⁵⁷

These calls for action continued in 2019. UN Secretary-General António Guterres raised the issue again in his protection of civilians report published on 7 May 2019, and it was discussed in the annual open debate on the

⁵³ International Committee of the Red Cross, 'Explosive weapons in populated areas', Factsheet, 14 June 2016; and International Network on Explosive Weapons (INEW), 'Protecting civilians from the use of explosive weapons in populated areas', Oct. 2019.

⁵⁴ Action on Armed Violence, 'Explosive violence in 2019', 7 Jan. 2020; and AOAV database, 2019, <<http://www.explosiveviolencedata.com/>>.

⁵⁵ O'Reilly, C. et al., 'The waiting list: Addressing the immediate and long-term needs of victims of explosive weapons in Syria', Humanity & Inclusion, Sep. 2019. On the armed conflict in Syria, see chapter 6, section II, in this volume.

⁵⁶ See e.g. International Committee of the Red Cross (note 53); and Article 36, 'Effects of explosive weapons', Working paper on explosive weapons in populated areas, Dec. 2019. For a list of the 109 states and territories and 6 state groupings that have publicly acknowledged the harm caused by EWIPA in statements, see 'Political response', on the International Network on Explosive Weapons (INEW) website.

⁵⁷ United Nations, Office for Disarmament Affairs, *Securing Our Common Future: An Agenda for Disarmament* (Office for Disarmament Affairs: New York, May 2018), pp. x, 36.

protection of civilians in the UN Security Council on 23 May 2019.⁵⁸ The debate marked the 20th anniversary of the adoption of the first UN Security Council resolution on the protection of civilians in armed conflict.⁵⁹ In July, the African Union Peace and Security Council issued a statement indicating its support for a political declaration to stop the use of EWIPA.⁶⁰ In September 2019, a joint appeal from the president of the ICRC and the UN secretary-general expressed alarm at ‘the devastating humanitarian consequences of urban warfare’.⁶¹ On 1–2 October 2019, Austria convened the Vienna Conference on the Protection of Civilians in Urban Warfare.⁶² There were participants from 133 states, several international organizations and a number of NGOs. Most made substantive and practical proposals on the development of a political declaration on EWIPA.⁶³ At the 2019 meeting of the UN General Assembly First Committee on Disarmament and International Security in October 2019, a joint statement on the issue coordinated by Ireland was endorsed by 71 member states.⁶⁴

As a result of this increasing international political pressure, Ireland convened the first of a series of open consultations on a political declaration on EWIPA in Geneva on 18 November 2019, with a view to finalizing and adopting a declaration in 2020.⁶⁵ The first meeting provided an opportunity for government delegates to share views on what they thought should be in such a political declaration. Most delegations called for the declaration to acknowledge the humanitarian impact of explosive weapons with wide-area effects and supported the idea of it encouraging the sharing of best practices and policies on the protection of civilians in urban conflict settings, and on the provision of victim assistance. Views differed, however, on how it should relate to IHL and on whether it should seek to prohibit or limit specific types

⁵⁸ United Nations, Security Council, Report of the Secretary-General, ‘Protection of civilians in armed conflict’, S/2019/373, 7 May 2019; UN Secretary-General, ‘Secretary-general’s remarks to the Security Council on the protection of civilians in armed conflict’, 23 May 2019; and Hamid, Z., ‘Security Council open debate: Protection of civilians in armed conflict, May 2019’, Peace Women, 23 May 2019.

⁵⁹ United Nations Security Council Resolution 1265, 17 Sep. 1999.

⁶⁰ African Union, Peace and Security Council (PSC), ‘Press Statement of the 859th meeting of the PSC, held on 17 July 2019, dedicated to an open session on the theme: “Protection of Civilians from the Use of Explosive Weapons in Populated Areas (EWIPA)”’, Addis Ababa, 24 July 2019.

⁶¹ United Nations, Secretary-General, ‘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’, Note to correspondents, 18 Sep. 2019.

⁶² Federal Ministry, Austria, ‘Vienna Conference on Protecting Civilians in Urban Warfare’, Vienna, 1–2 Oct. 2019.

⁶³ Federal Ministry, Austria, ‘Vienna Conference on Protecting Civilians in Urban Warfare: Summary of the conference’, Vienna, 1–2 Oct. 2019; Article 36, ‘Vienna Conference marks turning point as states support negotiation of an international political declaration on explosive weapons’, 2 Oct. 2019; and Pytlak, A., ‘States commit to take political action on explosive weapons at Vienna conference’, *First Committee Monitor*, vol. 17, no. 1, Reaching Critical Will (7 Oct. 2019), pp. 10–14.

⁶⁴ United Nations General Assembly, First Committee, ‘Joint statement on explosive weapons in populated areas’, New York, 24 Oct. 2019.

⁶⁵ Irish Department of Foreign Affairs and Trade, ‘Protecting civilians in urban warfare’, [n.d.].

of weapons. Some delegations argued that existing IHL is sufficient, while others said that the objective of the declaration should be to strengthen IHL. Ireland asked for written contributions on possible elements of a political declaration by 6 December 2019 and committed to publish a first draft text reflecting areas of convergence and divergence in mid-January 2020.⁶⁶ The next consultations will take place in mid-February and early April 2020.

Governing state behaviour in cyberspace

Cyberattacks and their consequences are a major international concern. The exploitation of cyber vulnerabilities in critical civilian infrastructure, for example, has become a particularly pervasive security threat.⁶⁷ By one estimate, the world experienced almost 100 significant cyber incidents in the first 11 months of 2019.⁶⁸ These involved a wide spectrum of activities and actors, including cybercrime by non-state actors and state or state-sponsored cyber operations that often occurred in legal grey areas below the threshold of armed conflict.⁶⁹ However, the use of cyber operations during armed conflicts is also a growing concern, and many states have developed or are developing digital operations within their military doctrines and strategies.⁷⁰

Despite two decades of international discussions within the UN on the development of norms of responsible state behaviour in cyberspace, there is little common ground between states on the nature of the threat and the measures needed to address it. Member states are now polarized around one of two positions. The first, which is mainly the position of Western states, regards the proliferation of information and communications technologies (ICTs) as a positive tendency and considers existing international law sufficient for guiding state behaviour in cyberspace. Another key element of this position is that human rights apply online as well as offline, including rights related to privacy. The other position, adopted by a group of states led by China and Russia, regards digitalization as a threat and would prefer new

⁶⁶ For a summary of the issues discussed, see Reaching Critical Will, 'Towards a political declaration on the use of explosive weapons in populated areas: States need to ensure that expressed commitments translate into real impacts on the ground', [n.d.]. See also Reaching Critical Will, 'Statements from the political declaration process on explosive weapons in populated areas', 18 Nov. 2019.

⁶⁷ See e.g. Gisel, L. and Olejnik, L., 'The potential human cost of cyber operations', International Committee of the Red Cross, Report of Expert Meeting, 14–16 Nov. 2018.

⁶⁸ 'Significant cyber incidents' are defined as cyberattacks on government agencies or defence-related and high-tech companies, or economic crimes involving losses of more than US\$ 1 million. See 'Significant cyber incidents', Center for Strategic and International Studies, [n.d.].

⁶⁹ Moynihan, H., *The Application of International Law to State Cyberattacks: Sovereignty and Non-intervention*, Chatham House Research Paper (Royal Institute of International Affairs: London, Dec. 2019).

⁷⁰ See e.g. Laudrain, A. P. B., 'France's new offensive cyber doctrine', *Lawfare*, 26 Feb. 2019; Brent, L., 'NATO's role in cyberspace', *NATO Review*, 12 Feb. 2019; and US Department of Defense, 'Summary, Cyber Strategy, 2018'.

normative guidance on state use and development of ICTs, and preferably a new legal instrument in the form of a treaty.⁷¹

Some developing countries, especially those with digital priorities that are different from those of more networked states, fall between these two groups and have noted that the cyber norms discussed previously do not include their perspectives. This politicization of the issue into two rival camps continued in 2019 with the adoption of two First Committee resolutions on cybersecurity and ICTs: one tabled by Russia and the other by the USA.⁷²

These different perspectives have prevented international consensus on a way forward. Instead, in December 2018 the UN General Assembly established two processes—an Open-ended Working Group (OEWG) and a new Group of Governmental Experts (GGE)—to replace earlier GGEs convened by the UN in this area. A key difference between the two processes is their level of openness—all UN member states can participate in the OEWG, whereas only 25 states are permitted to attend the GGE.⁷³

The OEWG held a first substantive session in September 2019 and an informal multi-stakeholder intersessional meeting in December 2019. The OEWG session on 9–13 September 2019 focused on six subjects: existing and potential threats; international law; rules, norms and principles; institutional dialogue; confidence-building measures; and capacity building.⁷⁴ The meeting identified several practical next steps, although states continued to have differences over the applicability of IHL and human rights to cyberspace, and the extent to which the activities of non-state actors are relevant to the OEWG discussions.⁷⁵

Although much was made of how the OEWG would be accessible for civil society, in reality many NGOs were barred from attending the first substantive session and their level of access to future meetings is unclear. While the 2–4 December 2019 meeting was significant for its inclusion of civil society,

⁷¹ See Tikik, E., 'Cyber arms control and resilience', *SIPRI Yearbook 2019*, pp. 479–99; and Lété, B., 'Shaping inclusive governance in cyberspace', *German Marshall Fund Policy Paper*, no. 23 (Sep. 2019).

⁷² UN First Committee Resolution L.49/Rev.1, 'Advancing responsible state behaviour in cyberspace in the context of international security' was introduced by the USA as its main sponsor and adopted by a vote of 161 in favour and 10 against with 8 abstentions; Resolution L.50/Rev.1, 'Developments in the field of information and telecommunications in the context of international security' was tabled by Russia and adopted by a vote of 124 in favour and 6 against with 48 abstentions. See United Nations, 'First Committee defers action on text proposing move to Geneva, while approving 9 draft resolutions', Press release, 6 Nov. 2019; and Reaching Critical Will, *First Committee Monitor*, vol. 17, no. 6 (9 Nov. 2019).

⁷³ For documents and information related to the meetings held by these two groups see United Nations, Group of Governmental Experts; and United Nations, Open-ended Working Group. For further analysis and discussion, see Reaching Critical Will, 'Information and communications technology (ICT)', [n.d.].

⁷⁴ United Nations, General Assembly, Open-ended Working Group, 'Organization of work of the first substantive session', A/AC.290/2019/2, 25 July 2019.

⁷⁵ Samler, D. and Pytlak, A., 'News in brief', *Cyber Peace & Security Monitor*, vol. 1, no. 3 (Sep. 2019).

it was the only opportunity for non-governmental stakeholder input into the OEWG process in 2019.⁷⁶

The GGE held several regional consultations and an informal consultation with all UN member states on 5–6 December 2019, before starting its formal work on 9–13 December 2019.⁷⁷

In the absence of consensus, a binding agreement within either the OEWG or the GGE process seems unlikely in the near future. Instead, states will continue to operate independently in cyberspace to promote and protect their strategic interests.

Conclusions

Some analysts see the world as in a state of flux and cooperative security policies as modest exceptions to the rule of unilateral, competitive arms build-ups and the unravelling of the arms control architecture.⁷⁸ While most of the focus of this undoing of arms control and disarmament agreements has been on nuclear, biological and chemical weapons, the processes for finding solutions to the significant challenges related to conventional weapons and international security have also become more unpredictable.

Many of the discussions within the global instruments for conventional arms control can be characterized by competing positions, repetitive debates and a discernible absence of progress—and, in some cases, even a lack of funding for treaty meetings. The CCW Convention in particular is treading water and forcing states to pursue alternative arms control arrangements, largely through fledgling political ‘declarations of the willing’ that bypass its consensus rule.

⁷⁶ United Nations, Informal intersessional consultative meeting of the OEWG with industry, non-governmental organizations and academia, 2–4 Dec. 2019.

⁷⁷ United Nations, ‘Chair’s summary: Informal consultative meeting of the Group of Governmental Experts (GGE) on advancing responsible state behaviour in cyberspace in the context of international security’, 5–6 Dec. 2019. For collated summaries of the regional consultations see ‘Regional consultations series of the Group of Governmental Experts on advancing responsible state behaviour in cyberspace in the context of international security’, [n.d.].

⁷⁸ See e.g. Lodgaard, S., ‘Arms control and world order’, *Journal for Peace and Nuclear Disarmament*, vol. 2, no. 1 (2019), pp. 1–18; and chapter 1 in this volume.