



ICRC

Views and Recommendations for the Sixth Review Conference of the Convention on Certain Conventional Weapons

**Working paper submitted by
the International Committee of the Red Cross**

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1. Introduction

The Convention on Certain Conventional Weapons (CCW) is a major pillar of international humanitarian law. The CCW and its Protocols embody the basic principle that the use of means and methods of warfare is not unlimited. They do so by prohibiting or restricting the use of conventional weapons that raise specific humanitarian, legal and ethical concerns, particularly weapons that may cause unnecessary suffering or that may have indiscriminate effects.

A major impetus for the negotiation of the CCW was the lack of weapon-specific rules in Additional Protocol I of 8 June 1977 and States' recognition at the time that "the suffering of the civilian population and combatants could be significantly reduced if agreements can be attained on the prohibition or restriction for humanitarian reasons of the use of specific conventional weapons, including any which may be deemed to be excessively injurious or to have indiscriminate effects".¹

This commitment to the evolution of international humanitarian law (IHL) and the development of specific rules on conventional weapons to address humanitarian concerns was carried forward by High Contracting Parties in the CCW's preamble.² Therein, High Contracting Parties explicitly confirm their commitment to the protections of the Martens clause,³ which has since been recognized as an effective means of addressing the rapid evolution of military technology.⁴

The **Sixth Review Conference of the CCW**, to be held from 13 to 17 December 2021 in Geneva, **is a key moment for High Contracting Parties to take stock of, and build on, the important role the CCW has played in minimizing suffering in armed conflict**, in order to ensure that the CCW remains fit for purpose as warfare evolves.

To uphold and progressively strengthen protection for victims of war, and for the natural environment upon which they depend, the **CCW needs to be reviewed against prevailing humanitarian concerns, military weapons technologies and practices, and other relevant normative developments** – both in the implementation of the Convention and existing Protocols and in the development of new Protocols.

This working paper outlines the views and recommendations of the International Committee of the Red Cross (ICRC) on issues of humanitarian concern relevant to the CCW, specifically: adherence to the CCW and national implementation (Section 2); mines other than anti-personnel mines (Section 3); incendiary weapons and weapons with incendiary effects (Section 4); blinding laser weapons and other laser systems (Section 5); explosive remnants of war (Section 6); explosive weapons in populated areas (Section 7); autonomous weapon systems (Section 8); and review of developments in science and technology, and legal review of new weapons, means and methods of warfare (Section 9).

With regard to the natural environment, **the ICRC draws High Contracting Parties' attention to its updated guidelines, which set out rules and recommendations relating to the protection of the natural environment under IHL**, including in relation to specific rules on conventional weapons.⁵ The

¹ Diplomatic Conference of Geneva of 1974–1977, Resolution 22 ("Follow-up regarding prohibition or restriction of use of certain conventional weapons"): <https://ihl-databases.icrc.org/ihl/WebART/480-770006?OpenDocument>, all web addresses accessed 2 November 2021.

² CCW preamble: "The High Contracting Parties, ... *Reaffirming* the need to continue the codification and progressive development of the rules of international law applicable in armed conflict".

³ CCW preamble: "The High Contracting Parties, ... *Confirming their determination* that in cases not covered by this Convention and its annexed Protocols or by other international agreements, the civilian population and the combatants shall at all times remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience".

⁴ International Court of Justice, *Legality of the Threat or Use of Nuclear Weapons* (advisory opinion), International Court of Justice, The Hague, 1996, para. 78.

⁵ ICRC, *Guidelines on the Protection of the Natural Environment in Armed Conflict*, ICRC, Geneva, 2020, pp. 86–104, <https://shop.icrc.org/guidelines-on-the-protection-of-the-natural-environment-in-armed-conflict-pdf-en>.

ICRC encourages States to adopt and implement measures to increase understanding of the effects of armed conflict on the natural environment prior to and regularly during military operations, whenever feasible and operationally relevant.

The CCW must also keep pace with, and integrate, societal developments and responses to issues of gender, diversity and inclusion. For example, we know that conflict and the use of conventional weapons can affect women and girls in disproportionate ways and that weapons can injure women, men, girls and boys differently. There is a need to better understand and respond to these gendered impacts. **The ICRC urges High Contracting Parties to consider gendered impacts of the use of conventional weapons – on women, men, girls and boys – in the implementation of the CCW and its Protocols**, and in particular as regards victim assistance and preventive and risk-reduction measures.

For this to be effectively achieved, women must be involved in preparing and implementing international and national responses to these problems. Their voice and participation in relevant forums and organizations and at various decision-making levels must be significantly strengthened. There are positive lessons the CCW can take from efforts to systematically integrate gender and diversity considerations in all aspects of mine action, as in the 2019 Oslo Action Plan for implementing the Anti-Personnel Mine Ban Convention and the 2021 Lausanne Action Plan for implementing the Convention on Cluster Munitions.

2. Adherence to the CCW and national implementation

To ensure the universal protection of civilians from the indiscriminate effects of certain conventional weapons and of combatants from weapons that cause superfluous injury or unnecessary suffering, it remains critically important that every State adheres to the CCW and all of its Protocols and faithfully implements their provisions.

The ICRC welcomes the adherence of two States to the CCW since the Fifth Review Conference and the adherence of several High Contracting Parties to Protocols they were not party to. However, progress in universalization has been limited and **the ICRC urges each High Contracting Party to adhere to all Protocols and amendments to which it is not yet a party, and to redouble its efforts to promote adherence to the CCW and its Protocols by non-party States.**

High Contracting Parties have also committed themselves, *inter alia*, to respecting, implementing and fully complying with the provisions of the CCW; to disseminating the Convention and its Protocols; to ensuring that their requirements are included in military training and instruction; and to the CCW Compliance Mechanism.⁶

The ICRC encourages each High Contracting Party to report on the steps that it has taken at national level since the Fifth Review Conference to implement and ensure compliance with the CCW, including with respect to: military manuals and the training curriculum of its armed forces; national legislation, including provisions to prevent and suppress violations; any violations or prosecutions that have occurred; and experiences in seeking or providing technical assistance and cooperation in implementing the CCW. **The ICRC urges any State that has not yet completed an annual compliance report to do so** as a matter of urgency and submit it before the Review Conference.

⁶ See: United Nations (UN), *Views and Recommendations for the Fifth Review Conference of the Convention on Certain Conventional Weapons: Working Paper Submitted by the International Committee of the Red Cross*, CCW/CONF.V/WP.3, UN, Geneva, 2016.

The ICRC's Advisory Service remains available to assist States in adhering to the CCW, the amendment to Article 1 and the Protocols annexed to the Convention, as well as in supporting national implementation activities. The ICRC has published an updated ratification kit for the CCW.⁷

3. Protocol II (amended): Mines other than anti-personnel mines

The adverse humanitarian consequences of mines other than anti-personnel mines (MOTAPM) – also referred to as anti-vehicle (AV) mines⁸ – are well-known and documented in many places, notably by the Geneva International Centre for Humanitarian Demining and the Stockholm International Peace Research Institute.⁹ In 2018, 569 casualties from AV mines were recorded in 23 States and territories; of those casualties, 53% were civilians. AV mines can significantly hinder the delivery of humanitarian assistance to vulnerable populations. They can also hinder the return of displaced civilians, the cultivation of valuable farmland, and reconstruction at the end of active hostilities.¹⁰

A number of High Contracting Parties and organizations, including the ICRC, have long called for the rules applicable to the use of AV mines to be strengthened to enhance the protection of civilians. However, little progress has been made since the unsuccessful attempt to conclude a new protocol on MOTAPM between 2003 and 2006. Owing to the continued differences of views, MOTAPM have not been discussed as a specific agenda item for meetings under the CCW or amended Protocol II since 2018.

The ICRC urges High Contracting Parties to include MOTAPM on the agenda of the Review Conference, and to continue focused discussion in future meetings of amended Protocol II on how to address the adverse humanitarian impact of these weapons, how existing rules of IHL constrain their use and what possible technical features may help reduce risks to civilians.

The ICRC also calls on States to adopt more stringent restrictions on the use of AV mines in their national laws and policies and to share them with other High Contracting Parties. In particular, the ICRC urges the High Contracting Parties that endorsed the 2006 Declaration¹¹ to use the opportunity

⁷ ICRC Advisory Service, *1980 Convention on Certain Conventional Weapons and Its Protocols: Ratification Kit*. ICRC, Geneva, 2019: <https://www.icrc.org/en/document/1980-convention-certain-conventional-weapons-and-its-protocols>.

⁸ The terms “MOTAPM” and “AV mines” are often used interchangeably at the CCW.

⁹ Geneva International Centre for Humanitarian Demining (GICHD), *Global Mapping and Analysis of Anti-Vehicle Mine Incidents in 2016*, GICHD, Geneva, 2017. GICHD and Stockholm International Peace Research Institute (SIPRI), *Global Mapping and Analysis of Anti-Vehicle Mine Incidents in 2017*, GICHD / SIPRI, Geneva / Stockholm, 2018; *Global Mapping and Analysis of Anti-Vehicle Mine Incidents in 2018*, GICHD / SIPRI, Geneva / Stockholm, 2019. GICHD, SIPRI and King's College London (KCL), *The Socio-Economic Impact of Anti-Vehicle Mines in Angola*, GICHD / SIPRI / KCL, Geneva / Stockholm / London, 2019.

¹⁰ A survey conducted by the ICRC in 2017 of residents in eastern Ukraine showed that the presence of mines, including AV mines, in the area has resulted in civilian casualties and, particularly in rural areas, often impeded everyday activities, such as travel by road, herding animals, working in fields, farming and collecting firewood. ICRC, “Ukraine: 20 years since Ottawa, much remains to be done”, ICRC, Geneva, 2017: <https://www.icrc.org/en/document/ukraine-20-years-ottawa-much-remains-be-done-1>.

¹¹ In 2006, 25 High Contracting Parties joined a declaration in which they pledged to implement, on a national basis, measures to help reduce the humanitarian consequences of AV mines. These included commitments not to use any AV mine outside a perimeter-marked area unless the mine was detectable and incorporated a self-destruct or self-neutralization mechanism with a back-up self-deactivation feature. See: *Declaration on Anti-Vehicle Mines* (Part III, CCW/CONF.III/11, UN, Geneva, 2006, p. 36) presented by Albania, Australia, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Denmark, El Salvador, Estonia, France, Israel, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Republic of Korea, Romania, Serbia, Slovenia, Republic of North Macedonia, United Kingdom of Great Britain and Northern Ireland and United States of America. In an additional declaration, France and the UK recalled that “they need a transition period of 15

of the Review Conference to report on their implementation of the Declaration's commitments, including confirmation that these commitments are part of military doctrine and policy.

4. Protocol III: Incendiary weapons and weapons with incendiary effects

Protocol III is the primary IHL instrument regulating the use of incendiary weapons. It supplements rules of customary IHL expressly governing the use of incendiary weapons and the general rules of IHL on the conduct of hostilities, which apply to all weapons used in armed conflict. However, Protocol III excludes weapons that may have "incidental" incendiary effects, such as flares, tracers and smoke and signalling systems. As a result, many weapons with incendiary effects are not covered by the Protocol's restrictions because their effects can be characterized as incidental to the munitions' main purpose.

Since the last Review Conference, there have been reports of the use of such weapons, in particular white phosphorus munitions in populated areas. Like incendiary weapons, these weapons can have severe consequences for civilians because of the likelihood that fires caused incidentally will spread, and the nature of the burn injuries that result when people come into contact with white phosphorus.

A number of High Contracting Parties and organizations, including the ICRC, have expressed concern about the humanitarian consequences of incendiary weapons and of weapons with incidental incendiary effects. Previous CCW meetings have highlighted this issue.¹² However, there has been no agreement to further address the adverse humanitarian consequences from the use of these weapons. Owing to the divergent views among High Contracting Parties, Protocol III was not listed as a specific agenda item for the Meeting of High Contracting Parties in 2019.

In light of the severe humanitarian consequences of the use of incendiary weapons and weapons with incidental incendiary effects, **the ICRC urges High Contracting Parties to hold a dedicated discussion on the implementation of Protocol III at the Review Conference and consider future work** to examine the military, technical, legal, humanitarian and environmental aspects of incendiary weapons and weapons with incidental incendiary effects.

The ICRC also urges High Contracting Parties to report on their national policies and operational practices on the use of incendiary weapons – with a view to minimizing their indiscriminate effects on civilians and unnecessary suffering to combatants – **and on measures taken to avoid indiscriminate effects of munitions that have incidental incendiary effects.** This is with a view to informing discussions regarding compliance with Protocol III, rules of customary IHL applicable to incendiary weapons,¹³ and the general rules of IHL on the conduct of hostilities governing all weapons, including those that have incidental incendiary effects.

years to comply fully with the requirements" of the declaration by 25 States (*idem*, p. 38). Israel also issued an additional declaration (*idem*, p. 39). In a separate declaration on MOTAPM (*idem*, p. 40), Germany outlined that it would only use and transfer AV mines that are detectable and equipped with a mechanism to limit their active life.

¹² The Fifth Review Conference noted the concerns raised by a number of High Contracting Parties over "the recent growing number of reports of use of incendiary weapons against civilians", condemned "any use of incendiary weapons against civilians or civilian objects, and any other use incompatible with relevant rules of International Humanitarian Law, including provisions of Protocol III where applicable", and called on "all parties to armed conflicts to respect relevant rules of International Humanitarian Law, including provisions of Protocol III where applicable". (Final Document of the Fifth Review Conference, CCW/CONF.V/10, paras 71 and 72.) Concerns were also recorded in the reports of the Meetings of the High Contracting Parties since the last Review Conference. (2017 Meeting of the High Contracting Parties, Final Report, CCW/MSP/2017/8, para. 35; 2018 Meeting of the High Contracting Parties, Final Report, CCW/MSP/2018/11, para. 19; and 2019 Meeting of the High Contracting Parties, Final Report, CCW/MSP/2019/9, para. 25.)

¹³ ICRC, "Rule 84" and "Rule 85", *Customary International Humanitarian Law*, Vol. 2, ICRC, Geneva.

5. Protocol IV: Blinding laser weapons and other laser systems

Protocol IV prohibits the use and transfer of laser weapons specifically designed to cause permanent blindness in persons, a prohibition that is also a rule of customary IHL.¹⁴ Motivations for this preventive prohibition were the incompatibility of these weapons with the IHL prohibition on weapons of a nature to cause superfluous injury or unnecessary suffering, and with the principles of humanity and the dictates of public conscience.¹⁵ This is despite the fact that blinding laser weapons were not specifically designed to cause lethal effects.

The Protocol also seeks to prevent permanent blindness that may result from the use of other laser systems such as those used for target designation, as anti-materiel weapons and to “temporarily” – rather than permanently – blind their victim (so-called “dazzling” laser weapons). Article 2 of the Protocol requires High Contracting Parties to take all feasible precautions to avoid the incidence of permanent blindness from the use of such systems, including through training and other practical measures. The ICRC has stressed the ongoing need to examine how the risk of permanent blindness resulting from the use of these systems can be effectively minimized.¹⁶

The First and Second Review Conferences explicitly recognized the importance of keeping the blinding effects related to the use of laser systems under consideration, taking into account scientific and technological developments as well as considering other relevant issues, such as the definition of “permanent blindness”.¹⁷ The Fifth Review Conference in 2016 reminded High Contracting Parties of their obligation to take all feasible precautions in the use of laser systems.¹⁸

Since the entry into force of Protocol IV there have been significant changes in the development and use of laser weapons and other laser systems, including anti-personnel dazzling laser weapons¹⁹ and high-energy laser weapons. At the same time, the medical understanding and characterization of blindness has evolved.²⁰

In light of these developments, **the ICRC urges High Contracting Parties to ensure that any laser weapons are compatible with Protocol IV and the IHL prohibition of weapons of a nature to cause superfluous injury or unnecessary suffering. The ICRC also encourages High Contracting Parties to share their national policies and operational practices aimed at ensuring all feasible precautions are taken to avoid causing permanent blindness when non-prohibited laser systems are used. High Contracting Parties at the Review Conference should consider pursuing further work on the implementation of Protocol IV in 2022**, such as through a specific agenda item.

¹⁴ ICRC, “Rule 86”, *Customary International Humanitarian Law*, Vol. 2, ICRC, Geneva.

¹⁵ ICRC, *Blinding Laser Weapons: Questions and Answers*, ICRC, Geneva, 1994. L. Doswald-Beck, “New protocol on blinding laser weapons”, *International Review of the Red Cross*, No. 312, May 1996.

¹⁶ UN, *Views and Recommendations for the Fifth Review Conference of the Convention on Certain Conventional Weapons: Working Paper Submitted by the International Committee of the Red Cross*, CCW/CONF.V/WP.3, UN, Geneva, 2016. ICRC, “The status and operation of Protocol IV: Statement of the International Committee of the Red Cross”, CCW Fourth Review Conference, 17 November 2011.

¹⁷ First Review Conference of the CCW, Final Declaration, Operative Paragraph 20, p. 36. Second Review Conference of the CCW, Final Declaration, Operative Paragraph 16, p. 5.

¹⁸ Fifth Review Conference of the CCW, Final Declaration, para. 73, p. 15.

¹⁹ See also: *Views and Recommendations for the Fifth Review Conference of the Convention on Certain Conventional Weapons* (CCW/CONF.V/WP.3).

²⁰ World Health Organization (WHO), “9D90 Vision impairment including blindness”, *International Classification of Diseases*, 11th rev., WHO, Geneva, 2021: <http://www.who.int/classifications/icd/en/>. WHO, *Change the Definition of Blindness*, WHO, Geneva, 2006:

<https://www.who.int/blindness/Change%20the%20Definition%20of%20Blindness.pdf>.

6. Protocol V: Explosive remnants of war

Protocol V stipulates obligations aimed at preventing and mitigating the threat posed by unexploded ordnance (UXO) and abandoned explosive ordnance (AXO). It obliges High Contracting Parties to clear, remove or destroy explosive remnants of war (ERW) as soon as possible after the cessation of active hostilities; to record, retain and transmit information on the use or abandonment of explosive ordnance so as to facilitate clearance and risk awareness;²¹ to take other precautions to protect civilians from the risk of ERW; and to provide assistance to victims.

In its operations in conflict and post-conflict situations around the world, the ICRC observes that ERW continue to claim the lives of hundreds of civilians annually long after hostilities have ended, taking a particularly heavy toll on children. ERW aggravate civilian suffering during and after hostilities: They can impede access to health-care facilities, restrict movement, hinder the delivery of humanitarian assistance and prevent the proper operation and maintenance of essential services. They prevent the safe return of displaced persons, significantly delay reconstruction efforts and impede socio-economic development. In urban areas, the difficulty of identifying and removing UXO among the rubble is increased owing to the presence of everyday metal objects from households, mines, booby traps and improvised explosive devices (IEDs). An additional challenge is the presence of mortal remains: clearance operations must ensure that such remains are treated and recovered in a dignified and appropriate manner and in a way that will facilitate their identification, which can further slow the pace of clearance. Finally, AXO is often used to build IEDs.

The universalization and full implementation of Protocol V is of critical importance. Since its entry into force, Protocol V has helped prevent and mitigate the grave humanitarian impact of ERW. However, in many parts of the world ERW continue to pose a deadly threat, and significant challenges to their clearance prevail.

Past meetings of High Contracting Parties to Protocol V have focused on the clearance of ERW in urban environments, on Article 4 obligations (regarding the recording, retention and transmission of information) and on victim assistance and international cooperation and assistance.²² The Review Conference should revisit these themes and discuss progress and challenges, as well as means of promoting the universalization and full implementation of Protocol V.

The ICRC urges High Contracting Parties to: share good practices and discuss measures to ensure the effective implementation of Protocol V obligations, with a particular focus on urban environments; **implement the best practices** for the recording, retention and transmission of information identified during the 2012 expert meeting hosted by the ICRC;²³ and **implement generic preventive measures**, including those contained in the Technical Annex to Protocol V, to minimize the occurrence of ERW.

7. Explosive weapons in populated areas

Although the issue of explosive weapons in populated areas is not formally on the CCW agenda, it has garnered increased attention in various international forums, in particular in the context of the ongoing diplomatic process to draw up a Political Declaration to address civilian harm from the use of these

²¹ See: ICRC, *Identifying and Addressing Challenges to Implementation of Article 4 of Protocol V to the CCW: Expert Meeting*, ICRC, Geneva, 2013.

²² See, for example: Report of the Eleventh Conference of the High Contracting Parties to Protocol V, para. 31, p. 5; Report of the Thirteenth Conference of the High Contracting Parties to Protocol V, paras 29–30, 33–36 and 38; Letter of the president-designate on the 2019 Meeting of Experts on Protocol V; and 2021 Protocol V Meeting of Experts, Indicative Programme of Work.

²³ See note 21, above.

weapons.²⁴ In past CCW Meetings of High Contracting Parties, States have expressed views on this issue both in the general debate as well as under more specific agenda items.

The ICRC and a large part of the international community remain seriously concerned about the significant numbers of civilian casualties that regularly occur when heavy explosive weapons are used in urban areas or other concentrations of civilians.²⁵ In addition to directly causing civilian death and injury and destruction of civilian objects, such use often has significant indirect (“reverberating”) effects on civilians, especially when essential services such as electricity, water and sanitation, and health care are disrupted. These reverberating effects further threaten the lives and health of civilians, provoking their displacement. The effects worsen when hostilities are protracted.

The ICRC continues to call upon States and all parties to armed conflicts to avoid using explosive weapons with a wide impact area in populated areas owing to the significant likelihood of indiscriminate effects,²⁶ and for this purpose to place restrictions and limitations on such use in their military policy and practice, in order to strengthen the protection of civilians and to facilitate respect for IHL.

Limiting the impact of weapons that may have indiscriminate effects is at the core of the CCW’s object and purpose. The Review Conference is an opportune moment for the High Contracting Parties to review their policy and practice with respect to the use of heavy explosive weapons in populated areas and to discuss practical measures for limiting the risk it poses to civilians.

The ICRC encourages the High Contracting Parties to discuss ways to strengthen the protection of civilians in urban warfare, including practical measures for limiting the risk that the use of heavy explosive weapons in populated areas poses to civilians, either during the Review Conference’s general exchange of views or under a more specific agenda item.

8. Autonomous weapon systems

It is the ICRC's view that an urgent and effective international response is needed to address the serious risks posed by autonomous weapon systems, a matter which has been raised by many High Contracting Parties during CCW discussions since 2014 and within the current Group of Governmental Experts (GGE) since the Fifth Review Conference.

In the ICRC's understanding, autonomous weapon systems, after initial activation, select and apply force to targets without human intervention. The user does not choose the specific target(s) and the precise timing and/or location of the resulting application(s) of force. The central challenge with these weapons resides in the difficulty of anticipating and limiting their effects.

From a humanitarian perspective, the use of autonomous weapon systems risks harming those affected by armed conflict – both civilians and combatants *hors de combat* – and the systems increase the risk of conflict escalation. From a legal perspective, they challenge the ability of persons who must apply the rules of IHL during the planning, decision and execution of attacks to comply with their obligations. From an ethical perspective, this manner of functioning risks effectively substituting

²⁴ See <https://www.dfa.ie/our-role-policies/international-priorities/peace-and-security/ewipa-consultations/>.

The ICRC’s comments on the latest draft of the Political Declaration can be found here:

https://www.icrc.org/sites/default/files/wysiwyg/Activities/icrc_comments_draft_ewipa_pd_feb_2021.pdf and https://www.icrc.org/sites/default/files/wysiwyg/Activities/icrc_comments_addendum.pdf.

²⁵ See ICRC, *Explosive Weapons with Wide Area Effects: A Deadly Choice in Populated Areas*, ICRC, Geneva, 2021 (forthcoming).

²⁶ See, 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*, ICRC, Geneva, 2019, pp. 13–15 (report prepared for the 33rd International Conference of the Red Cross and Red Crescent, hereinafter the “2019 Challenges Report”); Resolution 7 of the Council of Delegates, “Weapons and International Humanitarian Law” (18 November 2013) (CD/13/R7), para 4.

human decisions about life and death with sensor, software and machine processes. These ethical concerns are especially acute when autonomous weapon systems are designed or used to target persons directly.

Current trends towards the expanded development and use of autonomous weapon systems, including those based on recent scientific and technological developments, exacerbate core concerns dramatically. In particular, there is military interest in their use against a wider range of targets, over larger areas and for longer periods of time, in urban areas where civilians would be most at risk and with reduced human supervision and capacity for intervention and deactivation. Worryingly, the use of artificial intelligence and machine-learning-enabled software to control the critical functions of selecting and applying force is being increasingly explored.

Against this background, the ICRC offered recommendations to all States on 12 May 2021,²⁷ including High Contracting Parties to the CCW in light of the GGE's mandate for clarification, consideration and development of the normative and operational framework for autonomous weapon systems.²⁸ **The ICRC recommends that States adopt new, legally binding rules on autonomous weapon systems** to ensure that sufficient human control and judgement is retained in the use of force. It is the ICRC's view that this will require prohibiting certain types of autonomous weapon systems and strictly regulating all others.

Unpredictable autonomous weapon systems should be expressly ruled out, notably because of their indiscriminate effects. This would best be achieved with a prohibition on autonomous weapon systems that are designed or used in a manner such that their effects cannot be sufficiently understood, predicted and explained.

The use of autonomous weapon systems to target human beings should be ruled out. This would best be achieved through a prohibition on autonomous weapon systems that are designed or used to apply force against persons directly as opposed to against objects.

The design and use of autonomous weapon systems that would not be prohibited should be regulated, including through a combination of: imposing limits on the types of target, such as constraining them to objects that are military objectives by nature; imposing limits on the duration, geographical scope and scale of use, including to enable human judgement and control in relation to a specific attack; imposing limits on situations of use, such as constraining them to situations where civilians or civilian objects are not present; and imposing requirements for human-machine interaction, notably to ensure effective human supervision and timely intervention and deactivation.

The ICRC urges High Contracting Parties at the Review Conference to set out a path towards the adoption of new, legally binding rules on autonomous weapon systems, such as through a decision to negotiate a new CCW Protocol.

In keeping with High Contracting Parties' reaffirmation of the need to continue the codification and progressive development of the rules of international law applicable in armed conflict,²⁹ new legally binding rules on autonomous weapon systems would uphold and strengthen existing IHL rules,

²⁷ ICRC, "ICRC position on autonomous weapon systems", ICRC, Geneva, 12 May 2021, <https://www.icrc.org/en/document/icrc-position-autonomous-weapon-systems>

²⁸ ICRC, *Statement of the International Committee of the Red Cross, Convention on Certain Conventional Weapons (CCW) Group of Governmental Experts on Lethal Autonomous Weapons Systems*, ICRC, Geneva, 2021: <https://www.icrc.org/en/document/autonomous-weapons-icrc-recommends-new-rules>. ICRC, *Contribution by the International Committee of the Red Cross submitted to the Chair of the Convention on Certain Conventional Weapons (CCW) Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems as a Proposal for Consensus Recommendations in Relation to the Clarification, Consideration and Development of Aspects of the Normative and Operational Framework*, UN, Geneva, 11 June 2021, <https://documents.unoda.org/wp-content/uploads/2021/06/ICRC.pdf>

²⁹ CCW preamble, para. 8.

including the principle of distinction, the prohibitions of indiscriminate and disproportionate attacks, the obligation to take all feasible precautions in attack and the rules protecting combatants *hors de combat*, as well as specific prohibitions and regulations found in CCW Protocol II (amended), the Anti-Personnel Mine Ban Convention and the Cluster Munition Convention.

9. Review of developments in science and technology, and legal review of new weapons

New weapons, means and methods of warfare based on military application of developments in science and technology can be a source of humanitarian concern in armed conflict, including potentially indiscriminate effects of weapons on civilians and the possibility of causing superfluous injury or unnecessary suffering to combatants. The scope of the CCW's humanitarian remit in this respect is broad, allowing consideration of any conventional weapons (all weapons other than nuclear, biological and chemical weapons).

Assessing the legality of new weapons is vitally important in light of military applications of scientific and technological developments. Every State party to Additional Protocol I has an obligation to determine whether the employment of a new weapon, means or method of warfare that it studies, develops, acquires or adopts would, in some or all circumstances, be prohibited by international law. In the ICRC's view, the requirement to carry out legal review also flows from the obligation to ensure respect for IHL.³⁰ In any case, all States also have an interest in assessing the lawfulness of new weapons in order to help ensure that their armed forces can conduct hostilities in accordance with the States' international obligations. The ICRC is currently updating its *Guide to the Legal Review of New Weapons, Means and Methods of Warfare* in order to better assist States in establishing or improving national review procedures.³¹

More broadly, evaluating the impact in humanitarian terms of developments in military technology and practice – against the backdrop of States' obligations under existing CCW Protocols, the rules of IHL and the principles of humanity – can help prevent human suffering.

High Contracting Parties have a clear responsibility in this respect for effectively implementing existing CCW Protocols *and* for assessing weapon technologies and practices that may raise novel humanitarian concerns warranting regulation in new CCW Protocols. Both these tasks require effective monitoring and assessment of developments in science and technology and their military applications as weapons, means and methods of warfare, together with a realistic assessment of the foreseeable effects in armed conflict based on their design, injury mechanism and normal or expected use.

In light of these considerations, **the ICRC encourages High Contracting Parties at the Review Conference to reach agreement on the means necessary to ensure monitoring of military applications of science and technology as new weapons, and associated practices in their use, relevant to the CCW and its Protocols. In the view of the ICRC, such a mechanism should be established with this broad remit in mind**, whether in the form of a committee, advisory board, expert panel, standing agenda item or otherwise.

³⁰ ICRC, *2019 Challenges Report* (note 6, above), p. 34. This is also the view of some States, notably Australia, the Netherlands and Switzerland – see references in footnote 41 of that report.

³¹ Current version: ICRC, *A Guide to the Legal Review of New Weapons, Means And Methods of Warfare, Measures to Implement Article 36 of Additional Protocol I Of 1977*, ICRC, Geneva, 2006: <https://shop.icrc.org/a-guide-to-the-legal-review-of-new-weapons-means-and-methods-of-warfare.html?store=en>.