1. Introduction

The humanitarian impact of anti-vehicle landmines has long been a concern to States and international and non-governmental organizations. These concerns arise from the harmful impacts that these weapons can have on civilian populations and the international and humanitarian organizations that work in areas affected by armed conflicts. As has been highlighted in past expert meetings of the CCW, anti-vehicle (AV) mines\(^1\) have direct and severe effects when they kill and injure civilians as they travel in cars, trucks, buses and even bicycles in areas where AV mines have been laid. Even more widespread are the impacts that result from the long-term denial of assistance to vulnerable populations of food, water and medical assistance due to blocked transport routes. In many contexts today, AV mines obstruct the efforts of aid agencies to bring relief to war-affected communities.

The problems caused by AV mines arise both from the design of these weapons and the way that they are often used. Unlike most other munitions, AV mines are “victim-activated”, that is, they are designed to be detonated by the presence, proximity or contact of a vehicle. They cannot be aimed at military objects or vehicles alone. As such, most AV mines cannot distinguish if the vehicle is of a civilian or military character. In too many contexts, the measures that could reduce the indiscriminate effects of AV mines have not been taken (e.g. the marking, fencing and monitoring of mined areas). Nor have these weapons been quickly removed by the parties that laid them following the end of active hostilities. The result is that in many contexts AV mines remain a deadly and long-term danger endured by civilian populations. Civilian and military vehicles are equally at risk.

The humanitarian problem has resulted from the use of both hand-emplaced and remotely delivered AV mines, mines used to protect borders and those used in mobile military operations during an armed conflict. The humanitarian problems have arisen from the use of AV mines in both international and non-international armed conflicts and whether used by State forces or non-State actors.

International humanitarian law (IHL) contains rules applicable to AV mines which aim to reduce the dangers confronting civilian populations. These rules were discussed during the work on AV mines undertaken by CCW States from 2002 to 2006. Yet, despite these rules, serious humanitarian problems persist. In light of the nature of this weapon and its history, reducing harm to civilians from such devices must be a priority.

The ICRC has prepared this background paper to help facilitate the work of the Meeting of Experts on AV mines. It provides an overview of the treaty and customary IHL rules applicable

\(^1\) In this document, the term "anti-vehicle mines" is used to describe landmines designed to detonate by the presence, proximity or contact of a vehicle. It covers a wide range of vehicles that operate on land including tanks. The phrase is synonymous with "mines other than anti-personnel mines" in CCW amended Protocol II.
to these weapons, offers some observations about the current state of the law and identifies a number of issues that experts from CCW States Parties may wish to address in their work.

2. AV mines and IHL

2.1. General rules applicable to AV mines

The use of AV mines is regulated by the general rules of IHL that govern the conduct of hostilities and that are applicable to weapons used in armed conflict. These rules restrict how weapons may be used in armed conflict and outline measures which need to be taken so as to limit their impact on civilians and civilian objects. The most relevant rules applicable to AV mines include:

- the rule of distinction;
- the rule prohibiting indiscriminate attacks;
- the rule of proportionality; and
- the rule on feasible precautions.

Protocol I (1977) Additional to the Geneva Conventions contains the most recent formulation of these IHL rules and reflects customary law in these areas. The text of these rules is provided in the attached annex.

In addition to these general rules, the 2005 ICRC study on Customary International Humanitarian Law\(^2\) identified three customary rules on landmines, which are applicable to both anti-personnel (AP) and anti-vehicle (AV) mines:

- When landmines are used, particular care must be taken to minimize their indiscriminate effects. (Rule 81);
- A party to the conflict using landmines must record their placement, as far as possible (Rule 82);
- At the end of active hostilities, a party to the conflict which has used landmines must remove or otherwise render them harmless to civilians, or facilitate their removal. (Rule 83).

These rules, which are derived from the practice and opinio juris of States, are applicable in both international and non-international armed conflicts.

2.2. Specific treaty rules applicable to AV mines

Recognizing the specific dangers that AV mines can pose, States have developed more specific rules on these weapons. The most recent formulation of these rules is found in Protocol II (as amended in 1996) of the Convention on Certain Conventional Weapons (CCW). Amended Protocol II entered into force on the 3 December 1998 and as of 1 March 2012, it has been ratified by 98 States. The Protocol applies in both international and non-international armed conflict and, as such, its rules are applicable to both States and non-State actors participating in a non-international armed conflict.

A note on definitions

Unlike anti-personnel (AP) mines, AV mines are not specifically mentioned or defined in CCW's Amended Protocol II. Rather, such weapons are covered under the general definition of "mine",

referred to in Article 2.1, which says that a mine is "a munition placed under, on or near the ground or other surface area and designed to be exploded by the presence, proximity or contact of a person or vehicle."

As a result, the rules outlined in amended Protocol II and summarized below, apply to both AP and AV mines. The one exception is Art. 6.3, highlighted below in bold, which contains a specific reference to "mines other than anti-personnel mines" and contains rules for one specific type of AV mine (i.e. remotely delivered).

The rules of amended Protocol II on the design and use of AV mines

Amended Protocol II contains the following restrictions on the design and use of AV mines

- It is prohibited to use any mine which is designed or of a nature to cause superfluous injury or unnecessary suffering. (Art. 3.3);
- It is prohibited to use mines which employ a mechanism or device specifically designed to detonate the munition by the presence of commonly available mine detectors as a result of their magnetic or other non-contact influence during normal use in detection operations. (Art. 3.5);
- It is prohibited to use a self-deactivating mine equipped with an anti-handling device that is designed in such a manner that the anti-handling device is capable of functioning after the mine has ceased to be capable of functioning. (Art. 3.6);
- It is prohibited to use remotely-delivered mines other than anti-personnel mines, unless, to the extent feasible, they are equipped with a self-destruction or self-neutralization mechanism as well as a back-up self-deactivation feature. (Art. 6.3);
- It is prohibited to direct mines, either in offence, defence or by way of reprisals, against the civilian population as such or against individual civilians or civilian objects. (Art. 3.7);
- The indiscriminate use of mines is prohibited. Indiscriminate use is any placement:
  (a) which is not on, or directed against, a military objective.
  (b) which employs a method or means of delivery which cannot be directed at a specific military objective; or
  (c) which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated. (Art. 3.8).

Precautions and measures to protect civilians

In addition to the restrictions highlighted above on the use of AV mines, parties to a conflict must take a range of measures to protect civilians from the effects of AV mines and to facilitate the rapid clearance of these devices after the end of active hostilities. These regulations include the following:

- All feasible precautions shall be taken to protect civilians from the effects of AV mines. Such precautions may include, for example, fencing, signs, warning and monitoring (Article 3.10);

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3 As indicated in amended Protocol II, these rules also to booby traps and other devices.
4 A remotely delivered mine means a mine not directly emplaced but delivered by artillery, missile, rocket, mortar or similar means, or dropped by an aircraft. (Amend Protocol II Art. 2.2).
• Effective advance warning shall be given of any emplacement of mines which may affect the
civilian population, including the delivery or dropping of remotely delivered mines, unless
circumstances do not permit. (Articles 3.11 and 6.4);

• The location of all AV mines, except remotely-delivered AV mines, shall be recorded (Article
9.1);

• The estimated location of remotely-delivered AV mines must be recorded and (when
feasible) the location of such mines marked on the ground at the earliest opportunity (Article
6.1 and Technical Annex 1.b);

• All mines, minefields and mined areas must be cleared, removed, destroyed or maintained
“without delay after the cessation of active hostilities” (Article 10);

• A State Party or party to the conflict must take measures to protect peace-keeping and
humanitarian missions from the effects of AV mines under its control (Art. 12).

3. Observations on the current state of IHL

International humanitarian law contains very few rules specifically regulating AV mines.
For the most part, the rules applicable to these weapons consist of the general rules governing
the conduct of hostilities, which are applicable to all weapons, and the general restrictions
found in amended Protocol II regulating landmines (both AP and AV), booby-traps and other
devices.

The one exception is the Protocol's requirement prohibiting the use of remotely-delivered AV
mines unless, “to the extent feasible” they are equipped with a self-destruction or a self-
neutralisation feature as well as a back-up self-deactivation feature.

It is important to note that this regulation establishes a presumption of prohibition of the use of
remotely-delivered AV mines. Such weapons may be used only if, to the extent that it is
feasible, their active life is limited with self-destruct and self-deactivation features. The Protocol
does not set any time limits for the activation of these features but stipulates only that the mine
will no longer function once its military purpose expires.

There are no requirements in IHL for AV mines to be detectable, although many models
already are due to their metallic content. A detectability requirement facilitates the clearance
of these weapons and thus can reduce the dangers they pose to civilians. Amended Protocol II
does require that AP mines be detectable by commonly available technical mine detection
equipment by containing at least 8 grams of iron or another material providing an equivalent
signal. Proposals on detectability requirement for AV mines have been discussed on several
occasions in the CCW, most notably in 1995, as part of the negotiation of Amended Protocol II,
and between 2002 and 2006 as States attempted to negotiate a new CCW protocol on AV
mines.

There is currently no specific requirement that AV mines be used exclusively in perimeter
marked areas (i.e. areas marked, fenced and monitored so as to ensure the effective exclusion
of civilians). Such measures are required under amended Protocol II for hand-emplaced AP
mines that do not have self-destruct and self-deactivation features. Proposals to restrict the use
of non-detectable AV mines and AV mines without SD/SN and SDA features to perimeter
marked areas were discussed during the unsuccessful negotiation of a CCW Protocol on AV
mines.
Although CCW States were unable to agree on more stringent restrictions on AV mines in the past, there was considerable support for new requirements in the areas of detectability, limitations on active life and perimeter marking. At the 3rd CCW review Conference in 2006, 26 States Parties\(^5\) committed themselves, as a matter of national policy

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i) \text{not to use any AV mine outside of a perimeter-marked area if that mine is not detectable, and} \\
\text{ii) not to use any AV mine outside of a perimeter-marked area that does not incorporate a self-destruction or self-neutralization mechanism.}
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Little information has been provided since the 2006 CCW Review Conference on how these commitments are being implemented.

4. Possible issues for the Meeting of Experts

The April 2012 Meeting of Experts is an opportunity for CCW States Parties to clarify and express their views on a range of issues related to the protection of civilians from AV mines, the applicable IHL and the state of its implementation. Issues that could be addressed include the following:

- States Parties to Amended Protocol II could provide information on the extent to which measures have been taken to equip their remotely delivered AV mines with self-destruct or self-neutralisation features. While Article 6.3 requires that such features be used to the extent feasible, self-destruct and self-neutralisation technology has developed and become less expensive in the 16 years since this rule was adopted and 32 years since the use of a "self-neutralising feature was encouraged in Article 5.1 of the original version of Protocol II (1980). It would be useful for States to present the measures taken, particularly in relation to the development of new models of remotely-delivered AV mines. If it has not been feasible to equip specific models in existing stocks with such features, then States could indicate why this is the case and outline any other measures considered or implemented to meet the object and purpose of this rule.

- The 26 States that co-sponsored the Declaration on Anti-vehicle Mines at the Third CCW Review Conference should report on the implementation of their 2006 commitments.

- There needs to be a serious discussion on whether it is appropriate and responsible to use non-detectable AV mines without self-destruct or self-neutralisation features outside of perimeter marked areas. Given the victim-activated nature of these weapons can such weapons realistically be used outside of perimeter marked areas in conformity with the existing rules of IHL?

- Given that traditional military doctrine envisages the use of emplaced AV mines in combination with direct fire to stop or disrupt an adversary's mobile forces, can the use of AV mines without continuous monitoring and other measures to exclude civilians be justified under the general rules of IHL?

\(^5\) Albania, Australia, Bosnia and Herzegovina, Belgium, Bulgaria, Canada, Croatia, Denmark, El Salvador, Luxembourg, Estonia, France, Israel, Latvia, Lithuania, Netherlands, New Zealand, Norway, Republic of Korea, Romania, Serbia, Slovenia, The former Yugoslav Republic of Macedonia, United Kingdom of Great Britain and Northern Ireland and United States of America. See, CCW/CONF.III/WP.16/Amend.2 (6 February 2007). Germany made a separate but similar declaration, see CCW/CONF.III/WP.17 (16 November 2006).
• Why does the clearance of AV mines, as required by Article 10 of Amended Protocol II and customary IHL, often not occur? What steps can be taken to ensure better compliance with these rules?

• States and organizations have expressed concern in past CCW meetings about AV mines with sensitive fusing mechanisms -- such as low pressure fuses, tripwires, break wires and tilt rods -- which can be detonated by the presence, proximity or contact of a person. Previous efforts within the CCW on this subject have resulted in proposals that such sensitive fuses not be used on AV mines due to the risk that they will be detonated by individual civilians and not only by vehicles. The ICRC and a number of States Parties to the Convention on the Prohibition of Anti-personnel Mines have stated that such fuses are prohibited under that Convention as they fall under the definition of an anti-personnel mine. Although the use of sensitive fusing systems is not addressed by Protocol II of the CCW, the ICRC believes that, for humanitarian reasons, all CCW parties should refrain from the use of sensitive fuses on AV mines. This subject should be addressed as part of any CCW work on AV mines.

5. Final comments

The design of most AV mines makes them impossible to "target" (in a traditional sense) solely against specific military objectives. The protection of civilians from the indiscriminate effects of these weapons has for the most part depended on the following kinds measures:

1. The exclusion of civilians from areas where AV mines are present, through fencing, signs, warnings and monitoring;

2. Efforts to clear AV mines by the party that employed them or measures to facilitate their clearance as soon as active hostilities have ended; and

3. The use of self-destruct and self-neutralisation mechanisms to help ensure the neutralisation or destruction of an AV mine as soon as it no longer serves a military purpose.

Yet, in far too many conflicts these measures have not been implemented and, as a result, civilians have suffered gravely during the armed conflict and long after the fighting has ended.

This Meeting of Experts is an important opportunity for States to consider the issues linked to the use of AV mines, their humanitarian consequences and the state of implementation of the relevant IHL obligations. It is also the moment to consider how best to reinforce existing requirements of IHL so as to ensure that AV mines will no longer have unacceptable harmful impacts on civilian populations. In the view of the ICRC, such a discussion should not focus solely on specific technologies and technical features but also consider steps to enhance and ensure greater compliance with existing rules, particularly the clearance responsibilities of actors that use AV mines and essential precautions for the protection of civilians. If credible and effective results are not achieved in these areas, the humanitarian problems caused by AV mines will persist and the legitimacy of these weapons will be increasingly questioned.
Annex

Rule of distinction – The parties to the conflict must at all times distinguish between civilians and combatants and between civilian objects and military objectives. Attacks may only be directed against military objectives.

Rule against indiscriminate attacks – Indiscriminate attacks are prohibited. Indiscriminate attacks are those: a) which are not directed at a specific military objective; b) which employ a method or means of combat that cannot be directed at a specific military objective; or c) which employ a method or means of combat the effects of which cannot be limited as required by International Humanitarian law,

and consequently, in each case are of a nature to strike military objectives and civilian objects without distinction.

Indiscriminate attacks also include any bombardment which treats as a single military objective a number of clearly separated and distinct military objectives located in a city, town, village or other area containing a similar concentration of civilians.
[Art. 51 (4) and (5a), 1977 Add. Protocol I; Rules 11-13, ICRC Customary Law Study]

Rule of proportionality – It is prohibited to launch an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.

Rule on feasible precautions – In the conduct of military operations, constant care must be taken to spare the civilian population, civilians and civilian objects. All feasible precautions must be taken to avoid, and in any event to minimise incidental loss of civilian life, injury to civilians and damage to civilian objects.

An attack shall be cancelled or suspended if it becomes apparent that the objective is not a military one or is subject to special protection or that the attack may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.

Effective advance warning shall be given of attacks which may affect the civilian population, unless circumstances do not permit.

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6 See footnote 2 for full reference.