
Second Session
Geneva, 15-26 July 2002

Explosive remnants of war

An examination of legal issues raised in the ERW discussions

Prepared by the International Committee of the Red Cross
July 2002

The purpose of this paper is to highlight some of the legal issues raised in the work on explosive remnants of war (ERW). It identifies issues which will need to be examined as States consider the negotiation of new rules in this area. The present document supplements and develops further the papers submitted to the May 2002 meeting of Governmental Experts.

1. GENERAL RULES OF INTERNATIONAL HUMANITARIAN LAW

Existing law

International humanitarian law seeks to minimize the suffering of both civilians and combatants in armed conflict. Among the most stringent rules are those to protect civilians from the dangers arising from military operations. Their aim is to minimize civilian death and injury and destruction to civilian objects. The rules most relevant to the use of weapons and their effects include:

- a prohibition on attacks against civilians (Art. 51 (2), 1977 Additional Protocol I to the Geneva Conventions and Art. 13 (2), 1977 Additional Protocol II to the Geneva Conventions);¹
- a prohibition against indiscriminate attacks - including attacks that violate the "principle of proportionality" (Art. 51 (4) & (5), 1977 Add. Prot. I);
- a requirement to take all feasible precautions in the choice of means and methods of attack to avoid and minimize civilian casualties (Art. 57 (ii) and Art. 58, 1977 Add. Prot. I and Art. 3 (10) of Protocol II as amended on 3 May 1996 of the Convention on Certain Conventional Weapons);²
- a requirement to give effective advance warning of attacks which may affect the civilian population, unless circumstances do not permit (Art. 57 (c), 1977 Add. Prot. I and Art. 3 (11) of amended Prot. II of the CCW);

¹ Hereinafter referred to as 1977 Add. Prot. I and 1977 Add. Prot. II. The full text of the articles referred to in this section are contained in the annex found at the end of the document.

² Hereinafter referred to as amended Protocol II of the CCW.

- a prohibition on the destruction of objects indispensable to the survival of the civilian population, such as foodstuffs, agricultural areas, crops, and livestock (Art. 54 (2), 1977 Add. Prot. I and Art. 14, 1977 Add. Prot. II).

Discussion

While these rules apply to the use of weapons in military operations the extent to which they apply to munitions which have failed to function as intended and which remain a danger to civilians is often less clear. As has been shown all too often in modern conflicts, ERW has a tragic impact on civilian populations and in many instances can render the post-conflict period as dangerous as the war itself.

A rule particularly relevant to ERW is the principle of proportionality found in Art. 51 (5)(b) of 1977 Add. Prot. I. Under this provision an attack is prohibited if it "*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.*"

As highlighted by Christopher Greenwood in his paper to the meeting of Governmental Experts,³ this principle may impose some limitation on the use of weapons likely to create ERW. Traditionally, the formulation has focussed on incidental damage to civilians and civilian objects likely to occur during an attack. It remains to be determined, however, the extent to which the long-term effects of unexploded munitions must be taken into account in making the determinations required by the principle of proportionality. Nonetheless, the rules in the following paragraph demonstrate that post-conflict responsibility for dangerous munitions has been recognized by States.

The working papers submitted to the May 2002 meeting of the Group of Governmental Experts highlight that very few provisions of existing international law specifically address the problems caused by ERW. The precedents which exist requiring the removal or destruction of munitions after the end of hostilities are only applicable to specific weapons (i.e. naval and land mines, booby traps and other devices) and not the broader category of ERW.⁴

Many of the States which spoke at the meeting of Governmental Experts recognized the need to strengthen the law in this area and raised important points during the discussions. Some of these points, their implications, and the pertinent provisions of international humanitarian law are examined below.

³ CCW/GGE/II/WP.10

⁴ Requirements for the removal of naval mines are found in 1907 Convention (VIII) Relative to the Laying of Automatic Submarine Contact Mines. Provisions for the removal of mines, booby, traps and other devices on land are contained in amended Protocol II of the CCW.

2. LEGAL ISSUES PERTAINING TO ELEMENTS OF THE MANDATE OF THE GROUP OF GOVERNMENTAL EXPERTS

A. The factors and types of munitions which become ERW - Definitions

Existing law

As highlighted in the working paper prepared by the ICRC and the Geneva International Center for Humanitarian Demining (GICHD), a wide range of munitions are the source of the ERW problem.⁵ There is, however, no definition of ERW in international humanitarian law.

Discussion

During the 2001 CCW Review Conference and its preparatory process the term explosive remnants of war was generally understood to mean "unexploded ordnance" and stockpiles of explosive munitions abandoned in the theater of conflict. It has also been understood not to include anti-personnel mines as they are comprehensively addressed by the Convention on the Prohibition of Anti-personnel Mines.

The most relevant and widely referred to definition of "unexploded ordnance" is found in the International Mine Action Standards (IMAS). Unexploded Ordnance (UXO) is defined as "*explosive ordnance that has been primed, fuzed armed or otherwise prepared for use or used. It may have been fired, dropped, launched or projected yet remains unexploded either through malfunction or design or for any other reason.*"⁶

There are two primary issues which arise in relation to this definition. Firstly, it is not evident that it covers abandoned munitions which are often part of the ERW problem. Secondly, the concept of "explosive ordnance" as used in the standards is broad and may include weapons which may not have been envisioned in the CCW context. The IMAS define "explosive ordnance" as "*all munitions containing explosives, nuclear fission or fusion materials and biological and chemical agents. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rocket and small arms ammunition; all mines, torpedoes and depth charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; electro explosive devices; clandestine and improvised explosive devices; and all similar or related items or components explosive in nature.*"

B. Technical improvements which could reduce the risk of munitions becoming ERW

Existing law

Technical features on weapons to lessen the dangers to civilians are already part of international humanitarian law. Rules requiring AP mines to be detectable and to have self-destruct and self-deactivation features are found in amended Protocol II of the CCW. The Protocol also requires remotely delivered AV mines "to the extent feasible" to have self-destruct or self-neutralization mechanisms.⁷ Such features are precautionary measures to

⁵CCW/GGE/II/WP.5.

⁶International Mine Action Standards, Glossary of Mine Action Terms and Abbreviations IMAS 04.10, UN Mine Action Service, 2001.

⁷Article 4 of the amended Protocol requires all AP mines to be detectable. Article 5 requires AP mines which are not remotely delivered to have self-destruction and self-deactivation features. Article

minimize the possible indiscriminate effects of weapons and are a specific application of the requirement to take all feasible precautions to spare the civilian population.⁸

Discussion

Technical improvements can be an important preventative step in reducing the occurrence of ERW. Improvements in fusing mechanisms as well as requirements for self-destruction may be feasible options particularly for munitions, such as submunitions, which account for a large proportion of ERW casualties in conflicts where they have been used.

If technical improvements for munitions are to be considered to address the ERW problem, it would be necessary to decide if such requirements should apply to all munitions or only specific types. As reflected in the ICRC-GICHD working paper, submunitions have caused a disproportionate percentage of ERW casualties and are large part of the clearance burden in conflicts where they have been used. Self-destruct features on these munitions may help address a significant part of the problem.

While technical solutions are an important preventative step, such measures would need to be coupled with general obligations to minimize the threat of ERW. Requirements to clear ERW, share information to facilitate clearance and provide warnings to civilian populations would remain necessary to deal with munitions whose self-destruct features did not function properly and to ensure the removal of munitions not required to possess such mechanisms.

C. The adequacy of existing international humanitarian law in minimizing post conflict risks

Existing law

As indicated in the comments of the Coordinator for ERW at the May meeting of Governmental Experts, this element of the mandate is intended to examine whether existing rules on the use of munitions during conflict are adequate to prevent post conflict casualties. Of particular concern is the use of submunitions against military objectives in populated areas where the weapon's quantity and failure rate pose significant dangers to civilians. The ICRC has also expressed concern about the immediate casualties during conflict when the weapon is used against military objectives in civilian areas.

Submunitions, like other weapons used in armed conflict, are subject to the general rules of international humanitarian law mentioned above in Section 1. Of particular relevance to these weapons are the prohibition against indiscriminate attacks and the principle of proportionality.

Discussion

Concerns about the potential indiscriminate effects of cluster bomb submunitions have been expressed by many States and organizations. State practice has also provided evidence of a specific concern about these weapons. The 1995 commentary on the military manual of one State places cluster bombs in the same category as incendiary weapons and concludes that their use in "densely populated regions" is prohibited under existing rules of international

⁶ requires self-destruct and self-deactivation for remotely delivered AP mines and self-destruct or self-neutralization mechanisms for remotely delivered AV mines to the extent feasible.

⁸ Art. 57, 1977 Add. Prot. I and Art. 3 (10) of amended Protocol. II, CCW.

humanitarian law.⁹ It has also been reported that a State exporting cluster bomb submunitions placed specific restrictions on their use by a recipient State. Following concerns about the use of the weapons in populated areas, the exporting State suspended additional shipments.¹⁰ Another State which had used cluster bombs during a recent conflict expressed a desire for a more accurate weapon.¹¹

Several States have expressed support for the development of further rules on submunition use, in particular a prohibition on the use of these weapons against any military objective located in a concentration of civilians. Other States, however, believe that the existing rules on targeting are adequate to address the problem. Given these different views, an initial focus of discussion in the Group of Governmental Experts should be greater clarification as to how States operationalize the humanitarian law rules on indiscriminate attacks and proportionality in relation to the use of submunitions in civilian areas. Detailed discussion of how targeting decisions are made given the nature of the weapon and its post-conflict impact would be an important step forward.

D. Measures to facilitate the clearance of ERW, information sharing and warnings to civilian populations

Rapid and safe clearance, information sharing, and warnings to civilian populations are post-conflict activities which may be considered, in most if not all circumstances, to be "feasible precautions" to protect civilians from the effects of ERW. Such measures may also be regarded as "elementary considerations of humanity" required of States which, as noted by the International Court of Justice, are "even more exacting in peace than in times of war."¹² Amended Protocol II of the CCW contains provisions requiring clearance, information sharing and warnings for mines, booby traps and other devices. These provisions are important precedents which could be useful when considering measures to address the ERW problem.

1. The clearance of ERW

Existing law

Although the provisions of amended Protocol II apply only to mines, booby traps and other devices they establish a framework whereby

⁹ Specifically, a violation of Art. 51(4), of 1977 Add. Prot. I. See, Stefan Oeter, "Methods and Means of Combat," in *The Handbook of Humanitarian Law in Armed Conflicts*, Dieter Fleck ed., Oxford University Press, Oxford, 1995, p. 176.

¹⁰ W. Thomas Mallison and Sally Mallison, *Armed Conflict in Lebanon, 1982: Humanitarian Law in a Real World Setting* Armed Conflict, American Educational Trust, pp. 68-70.

¹¹ UK MoD, *Kosovo - lessons learned from the crisis*, June 2000, Chapter 7.46.

¹² In its decisions in the Corfu Channel case the International Court of Justice held that the duty of States to notify passing ships of the imminent danger posed by the presence of a minefield in territorial waters was not based on the Hague Convention No. VIII which was applicable in times of war, but, rather, on elementary considerations of humanity which are "even more exacting in peace than in war." ICJ, *Corfu Channel case*, Judgment of 9 April 1949, ICJ Reports 1949, p. 4 at 22.

- a party to a conflict is responsible for all mines, booby traps and other devices employed by it;¹³
- a party to a conflict shall clear mines, booby traps and other devices on territory it controls;¹⁴
- in areas it no longer controls, a party shall provide technical and material assistance to the party now in control of the territory;¹⁵
- the parties shall endeavor, at all times necessary, to reach agreement among themselves, other States and international organizations on the provision of technical and material assistance for the removal of mines, booby traps and other devices.¹⁶

Discussion

Such obligations could be a useful framework for addressing ERW. However, it would need to be strengthened in light of the nature of the ERW problem. Unlike mines, booby traps and other devices which have traditionally been laid by parties in territory they control, the munitions which become ERW are often used against the territory of an adversary. Thus, in addition to an obligation to clear unexploded munitions in territory one controls, effectively reducing an ERW threat will require measures to facilitate clearance in the full territory of an adversary or former adversary where a party's munitions may be found.

In prior discussions and working papers reference has been made to a "responsibility" of parties to a conflict to clear or facilitate the clearance of ERW. This term was used in the proposal of the ICRC to the Preparatory Committee for the CCW Review Conference in December 2000. Some States have confused such an obligation with a requirement to pay compensation for injuries or losses caused by the use of weapons which become ERW.

In the view of the ICRC, the term "responsibility" as used in the CCW discussions refers to a *positive* obligation to remove or facilitate the removal of ERW. It would not create a duty to pay compensation beyond that which already exists under the general rules of international law.

As highlighted in the papers submitted by C. Greenwood and M. Jacobsen to the May 2002 meeting, a duty to make reparations, including by paying compensation, only arises if there has been a *violation* of international law.¹⁷ The use of most weapons which can become ERW is not prohibited. The proposals to address the ERW problem are not concerned with providing redress for violations but rather with positive action to relieve the humanitarian situation on the ground.

¹³ Art. 3 (2), amended Protocol II, CCW. The full text of Article 3 (2) is reproduced in the annex. The Convention on the Prohibition of Anti-personnel Mines also requires a State Party to clear all AP mines in mined areas under its jurisdiction or control (Art.5 (1)).

¹⁴ Art. 10 (1) & (2), amended Protocol II, CCW. The full text of Article 10 is reproduced in the annex.

¹⁵ Art. 10 (3), amended Protocol II, CCW.

¹⁶ Art. 10 (4), amended Protocol II, CCW.

¹⁷ CCW/GGE/II/WP.10 and CCW/GGE/II/WP.9.

2. Information sharing

Existing law

Amended Protocol II also requires a party to record, retain and share information on the mines, booby traps and other devices used by it during an armed conflict. Such information is to be used to protect civilians from the effects of these weapons in territory it controls by expediting mine action activities. For areas it no longer controls, a party must make the information available to other parties to the conflict and the Secretary-General of the United Nations.¹⁸

Discussion

Information on the types and locations of munitions employed in a conflict is essential for the rapid clearance of ERW and the effective operation of mine/UXO awareness programs. The types of information useful to these activities have been outlined by the papers submitted by the United States¹⁹ and the GICHD²⁰ to the May 2002 meeting of Governmental Experts. These include

- number and types of munitions used;
- location of munitions as accurately as possible;
- general characteristics and dimensions of munitions, such as size, shape color etc.;
- best methods for destroying or neutralizing the harmful effects of the munitions.

3. Warnings to civilian populations

Existing law

Similar to measures to facilitate clearance and the sharing of information, warnings to civilians on the dangers of ERW are essential to reduce the threat of these weapons.

As highlighted earlier, general international humanitarian law requires parties to a conflict to take all feasible precautions to avoid and minimize civilian casualties. Specific application of this principle to mines, booby traps and other devices is found in Art. 3 (10) of amended Protocol II of the CCW. Under that provision parties must take all feasible precautions to protect civilians from mines, booby traps and other devices.

Feasible precautions are defined as "*those precautions which are practicable or practically possible taking into account all circumstances ruling at the time, including humanitarian and military considerations.*" Such precautions could include the fencing and monitoring of mined areas, signs and other warnings.²¹

The amended Protocol also requires effective advance warning to be given of the emplacement of mines, booby-traps and other devices which may affect the civilian population, unless circumstances do not permit.²²

¹⁸ Art. 9 (1), (2), and Technical Annex, amended Protocol II, CCW.

¹⁹ CCW/GGE/II/WP8

²⁰ CCW/GGE/II/WP.5/Add.1

²¹ Such measures are highlighted in Art. 3 (10) (b).

²² Art. 3 (11) and 6 (4), amended Protocol II, CCW.

In addition, Article 9 of the amended Protocol requires parties to a conflict to take all necessary and appropriate measures to protect civilians from the effects of these weapons in areas under their control.²³

Discussion

Measures to keep civilians out of ERW-affected areas can help prevent casualties both during and after hostilities. Warnings such as the marking and fencing of dangerous areas can save lives until clearance can begin. While the provisions of amended Protocol II require that military and humanitarian considerations ruling at the time be taken into account when taking precautions against the effects of mines, booby traps and other devices, such a balance would appear less necessary for ERW which no longer serve a military purpose. In most situations, the marking, fencing and other warnings taken in relation to ERW affected areas, would be done once active hostilities end. Thus, the military considerations in many situations would be less compelling than they would be during a conflict.

Warnings on the danger of ERW in specific areas by leaflets, television or radio could also be issued in advance or immediately after the employment of munitions likely to become ERW and have an impact on civilians.

3. SUMMARY

International humanitarian law already contains **general obligations** which require parties to a conflict to minimize the dangers to civilians arising from weapons used in military operations, and to take "all feasible precautions" in the choice of means and methods of attack to achieve this. As highlighted in the present document, the "feasible precautions" adopted in legal instruments to date include:

- preventative measures prior to a conflict (i.e. technical features on certain munitions);
- restrictions on the use of weapons and other considerations to be taken during conflict (rules on targeting and precautions);
- post-conflict actions to reduce the threat of unexploded munitions on the ground (clearance, information sharing and warnings).

While these obligations are only specifically required for mines, booby traps and other devices under existing law, they represent feasible precautions which can be taken to reduce the threat of other unexploded munitions and are useful precedents in developing new regulations in this area. They would, however, need to be adapted to the specific nature of the ERW problem which differs from that of mines, booby traps and other devices.

Although it could be argued that the general rules of international humanitarian law are sufficient, it is unlikely that they will be applied in an adequate or consistent manner unless specific rules for ERW are adopted. Clear rules will help identify the minimum norms expected of parties to a conflict and promote their implementation on a broad scale. They will also increase awareness about the needs of organizations conducting mine/UXO clearance and

²³ Art. 9 (2), amended Protocol II, CCW.

mine/UXO awareness. Such rules will help ensure that the response to an ERW problem is as rapid and effective as possible.

Annex

Provisions of International Humanitarian Law relevant to ERW

1977 Additional Protocol I of the Geneva Conventions

Article 51 -- Protection of the civilian population

1. The civilian population and individual civilians shall enjoy general protection against dangers arising from military operations. To give effect to this protection, the following rules, which are additional to other applicable rules of international law, shall be observed in all circumstances.
2. The civilian population as such, as well as individual civilians, shall not be the object of attack. Acts or threats of violence the primary purpose of which is to spread terror among the civilian population are prohibited.
3. Civilians shall enjoy the protection afforded by this Section, unless and for such time as they take a direct part in hostilities.
4. Indiscriminate attacks are prohibited. Indiscriminate attacks are:
 - (a) those which are not directed at a specific military objective;
 - (b) those which employ a method or means of combat which cannot be directed at a specific military objective; or
 - (c) those which employ a method or means of combat the effects of which cannot be limited as required by this Protocol; and consequently, in each such case, are of a nature to strike military objectives and civilians or civilian objects without distinction.
5. Among others, the following types of attacks are to be considered as indiscriminate:
 - (a) an attack by bombardment by any methods or means 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 or civilian objects; and
 - (b) 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.
6. Attacks against the civilian population or civilians by way of reprisals are prohibited.
7. The presence or movements of the civilian population or individual civilians shall not be used to render certain points or areas immune from military operations, in particular in attempts to shield military objectives from attacks or to shield, favour or impede military operations. The Parties to the conflict shall not direct the movement of the civilian population

or individual civilians in order to attempt to shield military objectives from attacks or to shield military operations.

8. Any violation of these prohibitions shall not release the Parties to the conflict from their legal obligations with respect to the civilian population and civilians, including the obligation to take the precautionary measures provided for in Article 57.

Article 54 -- Protection of objects indispensable to the survival of the civilian population

1. Starvation of civilians as a method of warfare is prohibited.
2. It is prohibited to attack, destroy, remove or render useless objects indispensable to the survival of the civilian population, such as foodstuffs, agricultural areas for the production of foodstuffs, crops, livestock, drinking water installations and supplies and irrigation works, for the specific purpose of denying them for their sustenance value to the civilian population or to the adverse Party, whatever the motive, whether in order to starve out civilians, to cause them to move away, or for any other motive.
3. The prohibitions in paragraph 2 shall not apply to such of the objects covered by it as are used by an adverse Party:
 - (a) as sustenance solely for the members of its armed forces; or
 - (b) if not as sustenance, then in direct support of military action, provided, however, that in no event shall actions against these objects be taken which may be expected to leave the civilian population with such inadequate food or water as to cause its starvation or force its movement.
4. These objects shall not be made the object of reprisals.
5. In recognition of the vital requirements of any Party to the conflict in the defence of its national territory against invasion, derogation from the prohibitions contained in paragraph 2 may be made by a Party to the conflict within such territory under its own control where required by imperative military necessity.

Article 57 -- Precautions in attack

1. In the conduct of military operations, constant care shall be taken to spare the civilian population, civilians and civilian objects.
2. With respect to attacks, the following precautions shall be taken:
 - (a) those who plan or decide upon an attack shall:
 - (i) do everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects and are not subject to special protection but are military objectives within the meaning of paragraph 2 of Article 52 and that it is not prohibited by the provisions of this Protocol to attack them;

(ii) take all feasible precautions in the choice of means and methods of attack with a view to avoiding, and in any event to minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects;

(iii) refrain from deciding to launch any 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;

(b) 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;

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

3. When a choice is possible between several military objectives for obtaining a similar military advantage, the objective to be selected shall be that the attack on which may be expected to cause the least danger to civilian lives and to civilian objects.

4. In the conduct of military operations at sea or in the air, each Party to the conflict shall, in conformity with its rights and duties under the rules of international law applicable in armed conflict, take all reasonable precautions to avoid losses of civilian lives and damage to civilian objects.

5. No provision of this Article may be construed as authorizing any attacks against the civilian population, civilians or civilian objects.

Article 58 -- Precautions against the effects of attacks

The Parties to the conflict shall, to the maximum extent feasible:

(a) without prejudice to Article 49 of the Fourth Convention, endeavour to remove the civilian population, individual civilians and civilian objects under their control from the vicinity of military objectives;

(b) avoid locating military objectives within or near densely populated areas;

(c) take the other necessary precautions to protect the civilian population, individual civilians and civilian objects under their control against the dangers resulting from military operations.

1977 Additional Protocol II

Article 13 -- Protection of the civilian population

1. The civilian population and individual civilians shall enjoy general protection against the dangers arising from military operations. To give effect to this protection, the following rules shall be observed in all circumstances.

2. The civilian population as such, as well as individual civilians, shall not be the object of attack. Acts or threats of violence the primary purpose of which is to spread terror among the civilian population are prohibited.

3. Civilians shall enjoy the protection afforded by this Part, unless and for such time as they take a direct part in hostilities.

Article 14 -- Protection of objects indispensable to the survival of the civilian population

Starvation of civilians as a method of combat is prohibited. It is therefore prohibited to attack, destroy, remove or render useless, for that purpose, objects indispensable to the survival of the civilian population, such as foodstuffs, agricultural areas for the production of foodstuffs, crops, livestock, drinking water installations and supplies and irrigation works.

Amended Protocol II of the Convention on Certain Conventional Weapons

Article 3 - General restrictions on the use, of mines, booby-traps and other devices

[...]

2. Each High Contracting Party or party to a conflict is, in accordance with the provisions of this Protocol, responsible for all mines, booby-traps, and other devices employed by it and undertakes to clear, remove, destroy or maintain them as specified in Article 10 of this Protocol.

[...]

10. All feasible precautions shall be taken to protect civilians from the effects of weapons to which this Article applies. Feasible precautions are those precautions which are practicable or practically possible taking into account all circumstances ruling at the time, including humanitarian and military considerations. These circumstances include, but are not limited to:

(a) the short- and long-term effect of mines upon the local civilian population for the duration of the minefield;

(b) possible measures to protect civilians (for example, fencing, signs, warning and monitoring);

(c) the availability and feasibility of using alternatives; and

(d) the short- and long-term military requirements for a minefield.

11. Effective advance warning shall be given of any emplacement of mines, booby-traps and other devices which may affect the civilian population, unless circumstances do not permit.

Article 9 - Recording and use of information on minefields, mined areas, mines, booby-traps and other devices

1. All information concerning minefields, mined areas, mines, booby-traps and other devices shall be recorded in accordance with the provisions of the Technical Annex.
2. All such records shall be retained by the parties to a conflict, who shall, without delay after the cessation of active hostilities, take all necessary and appropriate measures, including the use of such information, to protect civilians from the effects of minefields, mined areas, mines, booby-traps and other devices in areas under their control.

At the same time, they shall also make available to the other party or parties to the conflict and to the Secretary-General of the United Nations all such information in their possession concerning minefields, mined areas, mines, booby-traps and other devices laid by them in areas no longer under their control; provided, however, subject to reciprocity, where the forces of a party to a conflict are in the territory of an adverse party, either party may withhold such information from the Secretary-General and the other party, to the extent that security interests require such withholding, until neither party is in the territory of the other. In the latter case, the information withheld shall be disclosed as soon as those security interests permit. Wherever possible, the parties to the conflict shall seek, by mutual agreement, to provide for the release of such information at the earliest possible time in a manner consistent with the security interests of each party.

3. This Article is without prejudice to the provisions of Articles 10 and 12 of this Protocol.

Article 10 -Removal of minefields, mined areas, mines, booby-traps and other devices and international cooperation

1. Without delay after the cessation of active hostilities, all minefields, mined areas, mines, booby-traps and other devices shall be cleared, removed, destroyed or maintained in accordance with Article 3 and paragraph 2 of Article 5 of this Protocol.
 2. High Contracting Parties and parties to a conflict bear such responsibility with respect to minefields, mined areas, mines, booby-traps and other devices in areas under their control.
 3. With respect to minefields, mined areas, mines, booby-traps and other devices laid by a party in areas over which it no longer exercises control, such party shall provide to the party in control of the area pursuant to paragraph 2 of this Article, to the extent permitted by such party, technical and material assistance necessary to fulfil such responsibility.
 4. At all times necessary, the parties shall endeavour to reach agreement, both among themselves and, where appropriate, with other States and with international organizations, on the provision of technical and material assistance, including, in appropriate circumstances, the undertaking of joint operations necessary to fulfil such responsibilities.
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