

**REPORT OF THE  
INTERNATIONAL COMMITTEE  
OF THE RED CROSS**

for the

**REVIEW CONFERENCE**

of the

**1980 UNITED NATIONS CONVENTION**

on

**PROHIBITIONS OR RESTRICTIONS ON THE USE OF  
CERTAIN CONVENTIONAL WEAPONS WHICH MAY  
BE DEEMED TO BE EXCESSIVELY INJURIOUS OR TO  
HAVE INDISCRIMINATE EFFECTS**

*INTERNATIONAL COMMITTEE OF THE RED CROSS*

*February 1994*

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## *PART I*

# **THE SIGNIFICANCE OF THE REVIEW CONFERENCE IN THE CONTEXT OF PRESENT-DAY ARMED CONFLICTS AND WEAPON DEVELOPMENTS**

## **I. The importance of the 1980 Convention and the role of the Review Conference**

The International Committee of the Red Cross has first-hand experience of the real consequences of the many armed conflicts now taking place and of the actual use and effects of weapons. It therefore has a particular interest in ensuring that the law takes into account the realities of the use of weapons in order to effectively reduce the amount of suffering caused in armed conflicts.

International humanitarian law aims at reducing the suffering caused by the use of weapons by prohibiting indiscriminate attacks and by prohibiting the use of weapons that are by nature indiscriminate or of a nature to cause unnecessary suffering or superfluous injury. These international customary rules are universally applicable and are codified in major international humanitarian law treaties, in particular Protocol I of 1977 additional to the Geneva Conventions of 1949. The ultimate purpose is to mitigate the suffering and damage caused during armed conflicts as much as is practically possible. In order to achieve this effect, it is essential that international humanitarian law treaties, including the 1980 UN Convention on certain conventional weapons, be ratified widely and implemented correctly.

The 1980 Convention has the purpose of codifying and developing specific rules on the use of weapons, either by totally prohibiting the use of certain weapons, or by regulating their use, so that the customary principles of international humanitarian law on the use of weapons are given concrete expression in treaty form. However, in many respects this Convention has not achieved its

aim, not only because it has been insufficiently ratified or implemented, but also because in many ways it does not provide the means needed to prevent the excessive damage that is actually being caused in armed conflicts, the majority of which are non-international. In particular, the Convention relies too extensively on regulating behaviour in relation to the use of certain weapons, which is frequently difficult to enforce, rather than prohibiting the use of certain types of weapons altogether. Further, no parallel measures have been taken in the disarmament context, although they are proposed in the preamble to the Convention.

The Review Conference is a unique opportunity to make a careful assessment of the real problems caused by the use of certain weapons and of the reasons for these problems, so as to decide on the most effective measures to redress the situation. It is also an opportunity to decide on measures that may be necessary to prevent major problems arising from weapon developments in the near future.

### ***Mines***

The most urgent problem which the Review Conference must address is that of landmines. Despite the fact that the legal regulation of the use of mines was carefully discussed in the 1970s and that these deliberations culminated in Protocol II of the 1980 Convention, the situation that we are facing today as a result of landmine use is a disastrous one. It is estimated that there are about 100 million uncleared mines in the world, rendering huge expanses of land uninhabitable and uncultivable. It is estimated that every month landmines kill about 800 people and maim thousands, most of the victims being innocent civilians, especially children. The worst feature of mines is that they continue to cause damage for years or even decades after the end of hostilities. Mine clearance is a very slow and dangerous task and in some situations virtually impossible. It takes many years to clear very small areas and casualty rates among mine-clearing teams are appallingly high.

Part of the problem is that mine-laying has been undertaken in ways that are in violation of the law, and there would have been fewer casualties had the law been respected. However, Protocol II has serious shortcomings as it stands and it is clear that in order to try to find an effective way of improving the situation it is essential to consider much firmer measures, including complementary arms control measures. This issue will be examined in Part II of this report.

### ***Weapon developments***

The Review Conference is also a critical opportunity for a more forward-looking assessment of the likely problems that weapons production and use are going to create.

The situation caused by the use of modern landmines is a pertinent example in this respect. These weapons have always been considered normal conventional

weapons and certainly not weapons of mass destruction that merited important international arms control measures. However, a certain amount of thought and foresight would have shown that the introduction of plastic mines which can be sown in large quantities, which are cheap and widely available, and which remain active for an indefinite period would lead to the grave situation that we now face.

The international community does not have to wait for catastrophes to happen, but can rather anticipate probable dangers. In this respect it needs to take into account the types of conflicts that actually occur and the way in which weapons proliferate. Once a weapon is fielded it is very difficult to stem its proliferation and widespread use. Therefore it makes sense to devote some time to taking preventive steps that would avert enormous problems at a later stage.

Part III, Section II of our report looks at some of these issues, including the present development of directed energy weapons which could well begin to be used in the near future.

### ***Implementation and non-international armed conflicts***

The Review Conference is also an opportunity to address the fact that most damage inflicted by weapons, frequently as a result of indiscriminate use, occurs during internal armed conflicts, that effective implementation mechanisms are necessary for achieving better respect for the law, and that the Convention is lacking in both these respects. These issues will be addressed in Part III, Section I of this report.

## **II. The need for regular review of the 1980 Convention**

The 1980 Convention was intentionally structured in the form of a basic Convention with annexed Protocols so as to provide for the addition of further Protocols to specifically regulate, or prohibit where appropriate, the use of new weapons. The use of weapons is, of course, subject to international customary law but it is clear that specific treaty regulation is preferable in that it favours clarity of legal obligations.

Article 36 of Protocol I of 1977 additional to the Geneva Conventions of 1949 requires States Parties to review new developments in weaponry:

*“In the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party”.*

The 1980 Convention provides for a review procedure, which ought to be used regularly. Such reviews could evaluate the effectiveness of the provisions of the Convention and also take timely preventive measures in relation to new developments, whether entirely new weapons or new designs of existing weapons, that are likely to create problems.

### **III. The need for a reinforcement of the complementary roles of international humanitarian law and arms control law in the light of present circumstances**

The proliferation of non-international and unconventional armed conflicts, in which the combatants have access to modern weaponry by various means, has resulted in conflicts that are far more murderous and damaging than in the past. As the case of mines has shown, the wide availability of small weapons has contributed to a situation which, if left unchecked, is likely to grow worse.

This fact requires a fundamental review of how to use humanitarian law and arms control law most effectively in order to limit the damage caused by these spreading conflicts.

#### ***Arms control and disarmament law***

Arms control and disarmament law has for the most part concentrated on containing the threat caused by the existence of nuclear weapons and, for the last two decades, on biological and chemical weapons. More recently, however, international attention has been drawn to the dangers of the unsupervised trade in conventional weapons, although this is at present limited to an optional register of the transfer of certain conventional weapons.

This report will indicate that serious consideration should be given to extending disarmament and arms control measures to support new regulations on the use of mines and possibly other weapons.

#### ***International humanitarian law***

International humanitarian law originally controlled the damage caused by weapons by altogether prohibiting the use of weapons that were perceived as excessively cruel or "barbaric". The centuries-old customary prohibition of the use of poison was based on the perception of its treacherous nature and the fact that poisoned weapons inevitably caused death. The prohibition of the use of explosive bullets by the St. Petersburg Declaration was similarly based on the wish to outlaw weapons which inflicted excessively cruel injuries or which normally killed the victim. Subsequently humanitarian law prohibited the use of

expanding bullets (dum-dum bullets) in Hague Declaration IV,3 of 1899 and chemical and biological weapons in the Geneva Protocol of 1925.

Since 1925, however, international humanitarian law has not made any significant progress in prohibiting the use of specific weapons, but has instead concentrated on imposing limitations on their use in the hope of sparing the civilian population as far as possible.

However, this approach has grave shortcomings in that it assumes that all concerned will in fact abide by the rules regulating the use of weapons and that this will indeed spare civilians from the effects of the weapons in question. In reality neither of these assumptions is correct, for not only are weapons in practice used indiscriminately by a very large proportion of the persons that have them, but also, even if they are used correctly, civilians frequently suffer their "incidental" effects. The result is that unless the use of certain weapons is altogether prohibited, civilians will inevitably become victims of them.

Further, the rule prohibiting the use of weapons of a nature to cause unnecessary suffering or superfluous injury to combatants is still a valid legal rule, but unless it is applied to new weapons it will fall into desuetude.

One should think very seriously, therefore, of returning to the system of altogether prohibiting the use of weapons whose effects are particularly cruel and whose use is not indispensable.

### ***The complementary effects of humanitarian law and arms control law***

Given the reality of the proliferation and transfer of weapons, it is evident that prohibiting the use of a certain weapon will not completely prevent its use if the weapon continues to be manufactured and stockpiled. Therefore a prohibition on use is more effective if it is accompanied by arms control and disarmament measures, which should include verification mechanisms.

Conversely, it is unrealistic to assume that certain restrictions on the transfer of weapons will in practice prevent these weapons from reaching prohibited destinations, and still less that these restrictions will be sufficient to prevent them from being used in the many types of conflicts around the world.

### ***The example of the development of legal restraints on chemical weapons***

The problem of the potential development of chemical weapons was first addressed at the First Hague Peace Conference of 1899, which adopted a Declaration (IV,2) prohibiting the "use of projectiles the only object of which is the diffusion of asphyxiating or deleterious gases". This Declaration did not receive the complete support of the major nations at the time and, of course, was not accompanied by any verification mechanisms.

It was the use of chemical weapons in the First World War, and the fact that public opinion was horrified by the effects of chemical weapons on soldiers, that led to the move to firmly ban their use in the 1925 Geneva Protocol. It is interesting to note that most delegates to the diplomatic conference did not make a minute legal analysis of the effects of chemical weapons as compared with other weapons, or make a careful assessment of their military necessity as compared with the suffering they caused, but rather boldly stated that the use of these weapons was “barbaric” and “horrific” and therefore to be outlawed.

At the time it was suggested that legal measures taken should be limited to a ban on the export of chemical weapons. However, the majority of States thought it important to make a statement of principle that their use was prohibited. History has certainly proved that a mere export ban would not have prevented chemical weapons from being used like any other weapon, as it would not have had the effect of stigmatizing chemical weapons that outlawing them did.

It is certainly also true that if the treaty regulating chemical weapons had merely indicated that they should only be aimed at military objectives, with the usual provisions to limit incidental civilian injury, as may well have been the case had the issue arisen not in the 1920s but some decades later, the situation would be very different now.

Subsequent experience showed, however, the need for additional prohibitions on the manufacture and stockpiling of chemical weapons, together with effective verification mechanisms.

Therefore experience, which took almost a century to develop in the case of chemical weapons, has revealed the need to take probable new weapon developments seriously, to take preventive measures through the total prohibition in principle of weapons that are likely to be particularly damaging, and to back these up with effective disarmament and arms control measures.

#### **IV. The role of the International Committee of the Red Cross**

Pursuant to its mandate to work for the mitigation of suffering caused by armed conflicts, and in particular to work for the faithful application of international humanitarian law and to prepare its development, the ICRC has over the years taken a number of initiatives in relation to weapons.

One of these initiatives was the appeal made by the ICRC to governments and to the League of Nations to take action to prohibit the use of chemical weapons, which contributed to the adoption of the 1925 Protocol.

Work on the 1980 Weapons Convention was initiated at a Conference of government experts which was convened by the ICRC and which met for several weeks in 1974 in Lucerne and again in 1976 in Lugano. The ICRC had prepared

a preliminary report for this Conference based on consultations with experts and subsequently published the report of the Conference, which was later used as a basis for the United Nations Conference that adopted this Convention.

***Purpose and structure of this report***

The present report, which the ICRC has prepared for the forthcoming Review Conference, is intended to serve as a working document for the Group of Governmental Experts that will prepare the Conference. It is divided into two main parts.

**Part II** concerns the problem of landmines and is an analysis of the advantages and difficulties of the various proposals that have been made to amend Protocol II in order to achieve better regulation of landmines. This analysis takes into account the recommendations of the participants in the Montreux Symposium and of the military Symposium which the ICRC hosted, as well as other proposals.

Annex I to this report contains a summary of the principal findings of the Montreux Symposium; the full report has been sent to all States and is available from the ICRC.

The results of the Symposium of military experts are reproduced in full in Annex II.

**Part III** briefly examines other issues of relevance to the Convention which could be examined once progress has been made on the issue of landmines. The ICRC is of the opinion that it would be appropriate for these subjects to be on the agenda of the Review Conference, even if they do not necessarily result in agreed amendments or further protocols, and that more complete documentation will facilitate careful analysis once the Review Conference turns its attention to these subjects.

## ***PART II***

### **MINES**

#### *SECTION I*

### **HUMANITARIAN, LEGAL AND MILITARY ASPECTS OF LANDMINES: NEED FOR THOROUGH DISCUSSION**

Every year, thousands of men, women and children are victims of anti-personnel mines. Landmines not only kill but mutilate horrendously, strike blindly at all human beings alike, and continue to spread terror for years or even decades after the hostilities have ended. The effects of mines are frequently inconsistent with certain fundamental rules of international humanitarian law which require parties to distinguish between civilians and combatants, prohibit the use of indiscriminate weapons, and also prohibit the use of weapons that are liable to cause excessive suffering.

The magnitude of the damage caused by anti-personnel mines, in terms of both human suffering and long-term socio-economic destabilization, as witnessed by ICRC delegates and medical teams, prompted the ICRC to hold the Montreux Symposium on anti-personnel landmines in April 1993. It was recognized that the problems created by the use of mines are complex and multifaceted and that there would certainly not be a single solution to the present situation. Therefore, in addition to the surgical and orthopaedic needs of mine victims, the Symposium discussed the difficulties of mine clearance, the actual military use of mines in different situations, the technical construction of mines and possible developments, the manufacture and trade in mines, and, of course, the present legal regulation of mines and its shortcomings. It was clear that further legal regulation would require consideration of all the factors concerned in order to arrive at the most effective solution.

During the Montreux Symposium, the need was felt to secure a wider and more detailed military viewpoint on the operational use of landmines. Towards this end, the ICRC organized a Symposium of military experts on the military utility of anti-personnel landmines, in January 1994.

Annex I contains the results of the Montreux Symposium. These have been grouped under five themes: humanitarian, medical and socio-economic costs of landmines; prohibition of the use of certain types of mines; proposals for modification of the 1980 Convention and of its Protocol II; possible arms control and disarmament measures; and information to the public.

Annex II reproduces the results and proposals of the Symposium of military experts.

### ***Possible amendments to Protocol II of the 1980 Convention***

Section II of this Part will now give an overview of the various amendments to Protocol II that were proposed during the two symposia organized by the ICRC and by other persons or bodies. All suggestions pertinent to the possible amendment of Protocol II have been included. They are not necessarily alternative suggestions but could be combined. This report analyses the advantages and possible disadvantages of each proposal and indicates the conditions that would be necessary to make the proposal most effective.

For ease of reference, the proposals are presented in two groups:

- proposals on the prohibition of certain types of mines;
- proposals for further regulations on how mines are used.

## *SECTION II*

### **ANALYSIS OF VARIOUS PROPOSED AMENDMENTS TO PROTOCOL II**

A number of proposals were made by experts during the two symposia the ICRC hosted as well as by other persons or bodies on possible approaches that could be adopted to improve the situation caused by landmines. Most of these proposals have their advantages and difficulties and need to be considered in the light of a number of relevant factors. With a view to helping the Review Conference find the most realistic and effective solution possible, this part of the report will briefly analyse each of the proposals bearing in mind the considerations that need to be taken into account by the Review Conference.

#### **I. Proposals suggesting the prohibition of the use of certain types of mines**

The Review Conference could amend Protocol II of the Convention by introducing a prohibition on the use of certain types of mines or a prohibition

on the use of mines which do not have certain features. As this Convention is a humanitarian law treaty, it can only address the regulation or prohibition of the *use* of certain types of mines.

However, given the low price and widespread availability of mines, it is clear that any new prohibition relating to use must be accompanied by appropriate arms control/disarmament measures in order to make the rule effective. Therefore discussions during this Review Conference should take into account the arms control measures that would be necessary in order to choose which would be in fact the most effective rule.

### **1. Prohibition of the use of all anti-personnel mines**

This is the proposal that was supported by a number of participants at the Montreux Symposium and is being put forward by many non-governmental organizations, Senator Leahy of the USA and other influential individuals and organizations.

There is no doubt that from the humanitarian point of view this would be the best option, as a total ban would have the effect of *stigmatizing* the use of mines and a violation of the rule would be easily provable. Although it is recognized that lawless groups would be likely to make their own explosive devices if anti-personnel mines were not available, such improvised devices would not be available in the vast quantities that antipersonnel mines are and the problem would therefore be reduced. The advantage of this option over a ban on anti-personnel mines without self-destruct mechanisms is that the latter would still be around for the duration of their life and, in the case of internal armed conflicts that frequently last for years, if not decades, they are still likely to cause civilian casualties. It is recognized, however, that with self-destruct mines there would not be the cumulative effect that results from decades of laying live mines. Another advantage of a total ban is the fact that there would not be the danger of the technical failure of self-destruct or self-neutralizing devices and that refugees could immediately return home at the end of hostilities.

In order to be effective, however, this option would require the following:

- (i) General agreement among States, which would need to weigh the advantages and disadvantages of the continued use of anti-personnel mines. The meeting of military experts came to the conclusion that anti-personnel mines are the most effective means of achieving the objectives for which they are used. Alternative systems would require greater resources and the armed forces would be likely to suffer greater losses during the conflict.

However, these considerations are to be balanced against the loss of and damage to innocent civilian lives, the loss of agricultural land, and the enormous resources necessary for mine clearance and for care of the victims of mines. These negative effects of mines would not be altogether avoided

by the use of mines that self-destruct or self-neutralize, for the reasons outlined above.

- (ii) There should also be an arms control agreement to ban the manufacture and stockpiling of anti-personnel mines, together with appropriate verification procedures. This verification might not have to be quite as strict as would be necessary if it were agreed that mines need self-destruct and self-neutralizing mechanisms, as the stigmatization of mines would have its own effect (as with the banning of the use of chemical and biological weapons in 1925).
- (iii) There would need to be a very careful definition of anti-personnel mines that are to be banned, especially as dual use systems exist and any vagueness in the wording would allow the prohibition to be evaded.
- (iv) It would be useful to have an additional requirement that anti-tank mines must be both detectable and fitted with neutralizing mechanisms, for although these mines are causing fewer casualties than anti-personnel mines they are still very dangerous and ought not be left around for an indefinite period of time.

## **2. Prohibition of the use of scatterable (remotely-delivered) mines that are not fitted with self-destruct mechanisms**

This was one of the proposals of the Symposium of military experts. The advantage of the incorporation of self-destruct mechanisms is that it would reduce the need for mine clearance and also cause fewer civilian casualties in the long term. Civilian casualties from mines would not be avoided as they would still occur during the active life of the mines and would continue to be caused in the longer term by mines whose self-destruct mechanism failed to function. Civilian casualties are particularly likely to persist in internal armed conflicts which typically last for years and sometimes even decades, and where widespread mining tends to occur. However, one would avoid the build-up effect of the laying and relaying over many years of minefields that remain active throughout the hostilities and for years afterwards.

In order to make this proposal both effective and realistic, the following conditions need to be met:

- (i) There must be general agreement on the proposal, otherwise those who do not agree will continue to use scatterable systems without self-destruct mechanisms.
- (ii) There must be an arms control agreement to the effect that only scatterable mines with self-destruct mechanisms can be manufactured, and appropriate verification measures instituted. This is essential as there would be a temptation to manufacture scatterable mines without self-destruct mechanisms, which would be cheaper and therefore assured of a market.

- (iii) There must be a defined time-limit on the active life of the mine once it is laid. This is critical, as without such a specification the regulation is meaningless. From a humanitarian point of view, the time-limit should be as short as possible. If the mines in question continue to be active for years, there will be no reduction in the damage that mines inflict on the civilian population.
- (iv) The mechanism chosen must not depend on the good faith of the user for its correct functioning. Practice has shown that one cannot rely on proper behaviour. The self-destruct mechanism must therefore be incorporated into the mine in such a way that it cannot be easily tampered with and that the mine will automatically self-destruct at the end of a given period once the mine is activated.
- (v) The mechanism chosen must have an extremely low failure rate. As scatterable mines are laid thousands at a time, any failures will continue to pose a serious threat to the civilian population.
- (vi) This proposal should not be taken in isolation, as the problems caused by mines emplaced by hand or vehicle are equally serious.

### **3. Prohibition of the use of anti-personnel mines that are not fitted with self-destruct mechanisms**

This proposal, which was put forward by participants at the Montreux Symposium, would apply to *all* anti-personnel mines, whatever their method of delivery and intended use.

Self-destruction in the case of anti-personnel (AP) mines was considered preferable to self-neutralization for a number of reasons and the Symposium of military experts concurred with this, with the possible exception of jumping and directional fragmentation (Claymore) mines (see point 5 below).

There would need to be a definition of “anti-personnel mines” for the purpose of such a rule and, in order for the rule to be effective, the considerations outlined in point 2 above (scatterable systems) would also apply here.

As with the proposal to incorporate self-destruct systems in scatterable mines, this proposal would certainly reduce the numbers of civilian casualties, although it would not eliminate the problem.

### **4. Hand-emplaced anti-personnel mines used for tactical purposes and scatterable mines should have a self-destruct mechanism, but hand-emplaced mines used for long-term and barrier minefields need not have such a mechanism**

The participants in the Symposium of military experts made a distinction between hand-emplaced mines that are used for tactical purposes during a given conflict, on the one hand, and those used for long-term protective purposes, such as protecting a border, on the other. In their opinion, hand-emplaced mines that

do not self-destruct should still be permitted for long-term and barrier minefields, but would have to be used under tightly controlled circumstances.

Although these are clearly two different military uses, there are serious objections to basing an international regulation on this distinction:

- (i) If hand-emplaced mines continue to be manufactured, there is at present no means of controlling that they are sent only to countries that need them for such long-term barrier minefields and that they are indeed only used for that purpose.
- (ii) Very few mines would need to be manufactured for these types of minefields because of their limited number. Further, if the mines do not self-destruct, they do not need regular replacement. How could one control that only this small amount is manufactured and by which companies? Again, how could one control to which countries they are sent, according to which criteria and on whose decision?
- (iii) Given the above difficulties, and the very great danger from a humanitarian point of view of allowing such “dumb mines” to continue to be manufactured, it would be preferable to require that all AP mines have self-destruct mechanisms. This would mean that barrier minefields would need to be replaced regularly (probably every year). This is essentially a financial problem but it should be seen against the enormous cost of demining that would otherwise continue to be needed as well as the medical, social and infrastructural costs that result from the use of “dumb mines”.

## **5. Directional fragmentation mines do not necessarily have to be fitted with a self-destruct mechanism, but jumping mines must be fitted with either a self-destruct or a self-neutralizing mechanism**

The military experts drew a distinction between these anti-personnel mines and point detonating mines, as directional fragmentation mines and jumping mines have a much greater radius of lethality. They pointed out the disadvantage in equipping these types of anti-personnel mines with self-destruct mechanisms: there would be a greater danger to anyone who might be passing at the moment of self-destruction. The difficulty with self-neutralization is that one cannot be certain that the mechanism has functioned, and parts of the mine might still be available for reuse.

It was thought that directional mines would be reused and are therefore less likely to be left in place to pose a threat to civilians. It will have to be established whether one can assume that these mines will indeed not be left lying around, or whether it would be safer to equip them with a self-neutralizing mechanism that would take effect after a certain period if the mine is not switched off for reuse.

With regard to jumping mines, it will have to be assessed whether it would be safer to provide for the incorporation of a self-destruct mechanism or a self-neutralizing mechanism, taking into account the advantages and disadvantages of each system.

## **6. Prohibition of the use of mines that are not detectable**

This proposal was put forward by the participants in both symposia. The military experts agreed that in future anti-personnel mines should be manufactured so as to be detectable. However, they were unable to agree on the feasibility of rendering existing stocks of mines detectable. The problem of future stocks will be considered separately below.

The proposal to require that mines be made detectable is a useful one, although it should be combined with one or more of the other proposals in this section in order to have a real impact on the worldwide problem of mines. The requirement must provide, however, that the detectable element in the mine cannot be easily removed. There must also be verification that mines not conforming to these specifications are not manufactured.

## **7. Prohibition of the use of anti-tank mines that are not fitted with self-neutralization mechanisms**

Anti-tank mines were not discussed at any length during the ICRC-hosted symposia, as these concentrated on anti-personnel mines. However, it was indicated during the Symposium of military experts that anti-tank mines frequently have a self-neutralizing device. This is because these mines are expensive and therefore frequently need to be reused, and to equip them with self-destruct devices would be too dangerous for passers-by.

It would therefore be useful to require that all anti-tank mines be fitted with neutralizing mechanisms, and it would have to be verified that only this type is manufactured.

## **8. Prohibition of the use of mines with anti-handling devices**

This was a proposal put forward at the Montreux Symposium. It was felt that the military purposes of these devices, that is, to lower the morale of the enemy and act as a deterrent to breaching a minefield, did not justify the difficulty they create for mine-clearance operations after hostilities.

It was pointed out during the meeting of military experts that anti-handling devices are fitted to anti-personnel mines used to protect anti-tank mines. This makes it far more difficult for the opposing forces to remove the anti-tank mines. However, the major problem is that these anti-handling devices render mine-clearance efforts extremely difficult and dangerous. The majority of the partici-

pants in this meeting agreed that if anti-personnel mines fitted with anti-handling devices were also equipped with self-destruct mechanisms there would be less of a problem, as instead of attempting to clear the minefield one would simply wait until the mines had self-destructed.

The difficulty with this approach is that:

- (i) It may well be necessary to clear an area before the active life of the mines has expired, and the longer the active life of the mines, the more likely this will be.
- (ii) If there is no agreement on an effective implementation of a new rule that all mines are to have self-destruct or self-neutralizing devices (self-destruct for point detonating anti-personnel mines and self-neutralization for jumping and possibly Claymore anti-personnel mines and anti-tank mines), then the problem of anti-handling devices will remain as acute as ever.

This proposal would, of course, have to be combined with some of the other proposals as by itself it would not have any major effect on the problems caused by the use of mines.

## **9. Existing stocks should be modified to be in conformity with the new law or destroyed**

Although this is an arms control or disarmament measure and therefore is not actually a proposed amendment to Protocol II of the 1980 Convention, it is a subject that should be kept in mind during the Review Conference.

It is estimated that in existing stocks there may be up to one hundred million mines, most of which are undetectable and do not incorporate self-destruct or self-neutralization mechanisms. Should the Review Conference decide to render illegal the use of certain types of mines (e.g. anti-personnel mines without self-destruct mechanisms), the question will arise as to what should be done with these stocks. States which accept the new prohibition would not themselves be able to use them and, in the case of small anti-personnel mines, it would not be possible to add such mechanisms.

There is a great danger in allowing such stocks to continue to exist, for they are likely to be used in one way or another, making the massive problem that has been created world-wide by the use of such mines much worse. It would be simple to add a means of detecting the mine, by applying a metal strip for example, but this in itself would not prevent the enormous numbers of civilian casualties that will continue to occur before comprehensive mine-clearance is undertaken. There would also need to be verification that this modification to mines in stock has indeed been carried out, but given the limited result this measure would have in humanitarian terms, it is questionable whether such a proposal is worthwhile.

The only major difficulty relating to the destruction of stocks is financial. However, the cost of destruction and of possible restocking with the new mines has to be compared with the enormous cost of mine-clearance operations, which would have to be stepped up if existing stocks continue to be used. This is in addition, of course, to the cost of medical care, loss of agricultural land, etc.

## **II. Proposals on further regulations on how mines are used during an armed conflict and cleared after hostilities**

The existing provisions of Protocol II of the Convention relate exclusively to the way mines are to be used during an international armed conflict and to clearance operations after active hostilities. The effectiveness of these provisions depends entirely on combatants behaving in conformity with the law.

Although this is the case with all humanitarian law rules, non-compliance with the law has particularly serious effects in the case of the use of mines because of the fact that they continue to be active for such long periods. Prohibition of the use of certain types of mines is therefore necessary, as one cannot ensure behaviour in accordance with the law even in areas where various implementation mechanisms exist.

However, the participants in both ICRC-hosted symposia felt that rules on the way mines are used are still necessary. The Montreux Symposium looked at some of the shortcomings of Protocol II as it now stands (see pages 43-44), and both this Symposium and that of the military experts made some suggestions on possible improvements.

### **1. Introduce implementation mechanisms**

The experts noted that a major shortcoming of the 1980 Convention is its lack of implementation mechanisms. Although it may be possible to conceive of implementation mechanisms appropriate only for the use of mines and booby-traps, and therefore incorporated in Protocol II, it is proposed that the more logical place to introduce implementation mechanisms is in the body of the Convention itself. This proposal will therefore be examined in more detail in Part III of this report.

Possible arms control/disarmament measures relating to the manufacture, stockpiling and transfer of mines were examined by participants in the Montreux Symposium (see pages 45-47). Such measures would probably not be included in Protocol II to the 1980 Convention as it is a humanitarian law treaty, but they would be necessary in order to render new rules on the use of mines effective.

## **2. Extend the applicability of the law to non-international armed conflicts**

As the majority of conflicts are non-international, and as the appalling situation caused by the widespread and indiscriminate use of mines has occurred primarily as a result of these conflicts, it would make sense to extend the applicability of the law on the use of mines to non-international armed conflicts.

However, such an extension of the applicability of the law would normally be effected by an amendment to the Convention itself which specifies its scope of application. This proposal will therefore be considered in Part III of this report.

It should be noted, however, that in regard to the use of mines a mere extension of the applicability of the Convention to non-international armed conflicts is even less likely to have the effect of ensuring respect for the rules than is the case in international armed conflicts. There will inevitably be more violations of the law in non-international conflicts, and the report of the military experts indicates why insurgents are likely to continue relying extensively on the use of mines, especially if they are easily available (see pages 52-53). It is of particular interest, therefore, to seriously consider a total ban on the use and manufacture of certain types of mines so that forces in these conflicts do not have access to them. It is recognized that this will not stop insurgent forces from making explosive devices by hand and that each of these devices is likely to be very dangerous. However, there is a limit to the number they could make and they therefore would not be able to strew vast numbers of them around as is presently the case with mines manufactured on a large scale.

## **3. Introduce stricter rules relating to the precautions that should be taken to protect civilians**

The participants at the Montreux Symposium noted that the duty to take precautions to protect the civilian population that is contained in Article 3 of Protocol II is very weak in that it is limited to taking "all feasible precautions". Some participants suggested that the word "feasible" should be removed as it leaves too large a loophole, but others were of the opinion that this would place an impossible burden on the military in some situations.

The Symposium of military experts thought that all efforts should be made to mark minefields by fences or other means, even if they comprise mines that self-destruct or self-neutralize. They also suggested that there should be a duty to mark scattered minefields if at all possible, although they recognized that this is less feasible in most circumstances. Such provisions are in fact already included in Protocol II as it stands, although the reference to precautions in Article 3 could be rendered more specific by indicating that fences, etc., are to be used wherever possible for all types of minefields.

In any event, the report of the Montreux Symposium shows that one cannot put too much trust in the rule requiring such precautions, not only because they are frequently not taken, but also because experience has shown that markers such as fences and signposts tend to be removed by the local population for their own use as they are seen as valuable items.

#### **4. Introduce stricter rules on the recording of minefields**

The participants in the Montreux Symposium criticized the provisions of Protocol II relating to the recording of minefields. There is a duty to record “pre-planned” minefields (Article 7) but no definition of this term. With regard to all other minefields, parties are only required to “endeavour” to record. A more careful definition of the content of the legal duty to record should be considered; it was suggested that records should also indicate the types of mines used.

The Symposium of military experts suggested that the recording of minefields should be required even in the case of mines that self-destruct or self-neutralize. With regard to mines that are scattered by aircraft or artillery, their general area of use should be recorded. Self-destruct or self-neutralization times should also be recorded.

Although the situation would be improved if these proposals were carried out, one cannot place too much reliance on the duty to record for the following reasons:

- (i) in the light of past experience, even if there were an absolute rule that all minefields (or at least their general area of use) had to be recorded without exception, it is unlikely that the rule would be generally respected, especially in non-international armed conflicts;
- (ii) in the confusion of war, records frequently get lost;
- (iii) the recording of minefields is less effective than is generally expected as mines (especially scattered ones) frequently move to quite different locations owing to rainfall (which can displace mines kilometres from their original position) and to the movement of the soil or sand.

#### **5. Introduce the requirement that self-destruct times and other minefield information should be declared to all parties at the end of the hostilities**

This would be a useful step if it were carried out, but there are reasons to doubt that such a provision could be relied on:

- (i) States did not accept a rule to this effect during the negotiation of the 1980 Convention, and Article 7, para. 3(a), sub-paras. (ii) and (iii), indicate only that such information is to be given once territory is no longer occupied by the adverse party. This reticence may still exist.

- (ii) Such information will be available only if records have indeed been made and kept, and will be useful only if the mines have not moved to any great degree.

## **6. Extend the duty to take measures for the protection of third-party forces or missions**

The participants in the Montreux Symposium thought that the duty to take certain measures for the protection of United Nations forces or missions currently contained in Article 8 should be extended to include other missions, such as those undertaken by the CSCE. Some of the provisions could also be of use for the protection of mine-clearance organizations or humanitarian agencies that are attempting to work in the area.

If complied with, these rules would help alleviate the problems that arise after hostilities. It should be noted that the duty created by Article 8, para. 1, is conditional on whether the party concerned "is able" to undertake the measures. It is uncertain whether this can be improved on, especially as a large proportion of mines are laid not by government troops but by insurgents.

## **7. Introduce stricter rules on the duty to clear minefields at the end of active hostilities**

The participants in the Montreux Symposium stressed that at present no one has responsibility for clearing minefields, and that this is a major shortcoming of the law. They recognized, however, that finding an acceptable and effective solution in this respect may be difficult.

Some participants in the Symposium of military experts expressed the view during discussion that, in principle, those who laid the mines should be responsible for their removal. A suggestion was made during the Montreux Symposium that the Security Council could determine who should pay for mine clearance and who should carry it out.

## **8. Introduce rules to prevent the indiscriminate effects of unexploded sub-munition**

The symposia that the ICRC hosted did not deal directly with the problem of unexploded sub-munition, and therefore did not make any particular proposals in that regard, as it does not fall into the category of mines. However, participants in both meetings pointed out the extensive danger caused by these remnants of war which in many respects constitute the same type of hazard to civilians and clearing difficulties after hostilities as mines do. However, some of the issues involved are different from the question of mines. This subject will be looked at again in Part III below.

***PART III***  
**SUBJECTS RELATED TO  
THE CONVENTION ITSELF AND  
TO POSSIBLE ADDITIONAL PROTOCOLS**

***SECTION I***  
**POSSIBLE AMENDMENTS TO THE CONVENTION**

**I. The introduction of implementation mechanisms**

The total lack of implementation mechanisms in the 1980 Convention is a problem that should be addressed during the Review Conference.

The Symposium on mines that the ICRC hosted in Montreux, while recognizing the limits of the implementation mechanisms provided by international law, proposed that certain implementation provisions be incorporated into the main body of the 1980 Convention. With this in view, the participants looked first at implementation mechanisms in other humanitarian law treaties that could be used in the 1980 Convention and then at other international law mechanisms that could be useful.

**(i) Proposals on implementation mechanisms stemming from those that exist in other humanitarian law treaties**

Insofar as the provisions of the 1980 Convention reaffirm the rules of international humanitarian law found in other treaties, implementation measures provided for in those other treaties are naturally also relevant to the 1980 Convention. However, it may be desirable to specifically include such measures in the 1980 Convention.

***Provision of legal advisers***

This is presently required by virtue of Article 82 of Protocol I additional to the Geneva Conventions. A similar provision in the 1980 Convention could

indicate that legal advisers should give guidance on matters relating to the use of weapons. The participants in the Montreux Symposium recommended that legal advisers be appointed at all levels down to brigade or equivalent level and be incorporated into planning staffs.

### ***Specific requirements for training in humanitarian law***

Several of the participants in the Montreux Symposium placed great stress on the importance of correct training. The requirement to instruct the armed forces in the law is provided in Hague Convention IV of 1907, the four Geneva Conventions of 1949 and their Additional Protocols of 1977. It was thought that such a requirement ought also to appear in the 1980 Convention.

Certain specific suggestions were made in this regard:

- there should be training in the use of weapons in accordance with humanitarian law at cadet academies and in all command and staff training programmes;
- manuals on weapon systems should incorporate the law applicable to their correct use in the languages of the user countries;
- the packaging of weapons should include warnings of the legal limitations on their use;
- all military training of foreign nationals should include training in humanitarian law.

### ***Incorporation into domestic law***

The 1980 Convention should be translated into local languages, and appropriate national laws and regulations should be adopted. This is similar to the provision in Article 84 of Protocol I of 1977.

### ***Liability and criminal sanctions***

It is clear that the law of international responsibility applies in relation to violations of the law governing the use of mines. The difficulty lies in determining liability with respect to compensation for damage resulting from violations of the law, and establishing which body should be responsible for making such decisions. The possibility of compulsory adjudication will be considered below.

With regard to individual liability, the participants in the Montreux Symposium thought that as a matter of principle criminal sanctions ought to be obligatory for violations of the rules contained in the Protocols of the 1980 Convention. However, they recognized that similar provisions in the 1949 Geneva Conventions and Protocol I of 1977 have not usually been respected.

If Protocol II to the 1980 Convention were to be amended to prohibit the use of certain types of mines, violation of such a rule would be much easier to establish than violation of the present rules, which place certain constraints on behaviour only. The experts at the Montreux Symposium made some general suggestions as to how to improve implementation of the rule requiring the application of criminal sanctions (page 164).

### ***International Fact-Finding Commission***

It was suggested that the International Fact-Finding Commission provided for in Article 90 of Protocol I additional to the Geneva Conventions could also be used to investigate possible violations of the 1980 Convention. In the context of the 1977 Protocol, the competence of the Commission is based on consent that can either be given in advance, in the form of a declaration, or *ad hoc*. It would have to be decided whether the same formula would be appropriate for the 1980 Convention and whether it should also be based on confidentiality, as provided for in the 1977 Protocol. The participants in the Montreux Symposium pointed out that the Commission would be more effective as a law-enforcement mechanism if it had an automatic right to monitor possible violations of the 1980 Convention.

### **(ii) Other possible implementation mechanisms**

#### ***Compulsory adjudication***

The following are possibilities:

- International Court of Justice. The compulsory jurisdiction of the ICJ is provided for by several treaties and a similar provision could be incorporated into the 1980 Convention. The disadvantage is that the ICJ has jurisdiction only over international disputes and cannot cover individual accountability.
- International arbitration. This depends on a certain degree of cooperation by the parties involved in order to create the arbitral tribunal and its regulations.
- International criminal court. The United Nations International Law Commission is at present studying the possibility of setting up such a court. However, the suggestion of establishing such a court has existed for a long time and it is not likely to materialize in the near future.
- A court created especially for the 1980 Convention. A number of international treaties create courts for the implementation of their rules by deciding on allegations of violations and sometimes also by delivering advisory opinions. These courts are frequently very effective law-enforcement mechanisms as they often have jurisdiction not only over inter-State disputes but also over cases brought by individuals or organizations.

The participants in the Montreux Symposium thought that it was unlikely that States would accept compulsory adjudication, as this does not at present exist in any international humanitarian law treaty. However, there is no doubt that it could be a very effective method, especially if individuals or organizations were able to bring claims.

### ***United Nations Security Council***

It was suggested during the Montreux Symposium that, in the absence of a compulsory adjudication mechanism, the Security Council might be able to impose suitable remedies for violations of the 1980 Convention. However, this would depend on the political will of the members of the Council.

### ***Creation of a supervisory body***

A number of international treaties create specific supervisory bodies to help the implementation of their provisions. These bodies typically receive periodic reports submitted by States Parties on the measures they have taken to implement the treaty, receive complaints about alleged violations, undertake investigations and discuss the results of these activities with the States concerned. They also often undertake promotional activities in order to improve compliance with the law.

The Review Conference could consider whether it would be appropriate to create an analogous body for the 1980 Convention or whether the terms of reference of the International Fact-Finding Commission could be extended to cover these roles for the purposes of the 1980 Convention.

## **II. Extension of the scope of application of the Convention to non-international armed conflict**

The 1980 Convention at present formally applies only to international armed conflicts, even though the majority of conflicts are internal. The laying of millions of mines during non-international armed conflicts has caused not only tremendous immediate suffering but also severe social and economic damage to the countries concerned.

The major rules of international humanitarian law already apply to non-international armed conflicts by virtue of Article 3 common to the Geneva Conventions of 1949, Additional Protocol II of 1977 and international customary law. However, specific rules applicable to the use of weapons in non-international armed conflicts would give useful precision to the law.

The participants in the Montreux Symposium thought that the 1980 Convention ought also to apply to non-international armed conflicts, although they recognized that this may be a sensitive issue. They felt that given the enormous

damage that is frequently inflicted on the assets of a State by the widespread improper use of weapons in an internal armed conflict on its territory, there may be greater interest in making these international rules applicable in such conflicts.

The most obvious way to extend the application of the 1980 Convention to non-international armed conflicts is by an amendment to Article 1 of the Convention. Should this cause too much difficulty, another possibility is to create an optional protocol to this effect, or to introduce into the Convention an additional article which parties could accept by a declaration to that effect or, conversely, which would be applicable to parties unless they specifically opted out. All three methods are to be found in other international treaties when a specific provision is desired by some of the parties but not by others.

As indicated in Part II above (pp. 142-145), additional arms control measures are vital to limit the damage inflicted during internal armed conflicts.

## *SECTION II*

### SPECIFIC WEAPONS

#### **I. Blinding weapons**

The ICRC is of the opinion that blinding weapons should be on the agenda of the Review Conference with a view to the possible adoption of an additional protocol on this subject. Given the advanced stage of development of hand-held versions of this type of weapon, together with the real possibility of their appearance on the battlefield in the near future and their subsequent proliferation among all groups that use force, it is essential that the Review Conference use this last opportunity to take preventive action.

##### **(i) Information gathered at expert meetings convened by the ICRC**

Prompted by reports concerning the development of certain types of laser weapons which would result in permanent and incurable blindness, the ICRC convened four meetings of experts. The meetings were attended by leading specialists in laser technology, ophthalmology, military medicine and psychiatry, and international humanitarian law. The scientists described the nature and effects of these laser weapons and the physical, psychological and social effects of blindness as compared with other combat injuries. Subsequently, the legal and policy aspects of this issue were discussed, together with possibilities for future legal regulation.

***Technical characteristics of new laser weapons and their effects in medical terms***

The specialists gave information on laser weapons under development as reported in unclassified sources.

A number of weapons were said to be designed for anti-sensor or anti-personnel use. "Anti-sensor" use refers to the destruction of enemy optical viewing systems, whereas "anti-personnel" use refers to an intentional effect on peoples' eyesight. As the energy and wavelength of the laser necessary to destroy sensors is similar to those necessary to damage eyes, laser systems said to be designed for anti-sensor purposes could also be used for anti-personnel purposes.

With regard to current technical possibilities for the further development of anti-personnel laser systems, the experts stressed that lasers can be very small and pointed out that small, clip-on laser devices that can now be fitted to rifles for training purposes could easily be made non-eye-safe. At present the range of these training devices is relatively limited but more powerful ones are being designed. It was also indicated that lasers can be very cheap. The group further pointed out that range-finding systems (which are less powerful than the anti-sensor/anti-personnel lasers being developed) could be misused to blind intentionally and that some accidents have indeed already occurred with these.

With regard to the effect of these lasers on the eye, it was indicated that the extent of damage to the eye will depend on the energy and distance. The anti-personnel and anti-sensor weapons presently under development will permanently blind a person up to a distance of a kilometre or more. Beyond this distance a person may be flashblinded, or even further away may be dazzled if a visible wavelength is used. The exact distance at which there is no longer a permanent blinding effect is unpredictable because a laser beam is affected by atmospheric conditions and dust. The aiming of the beam does not appear to be particularly difficult as it can be diverged to an area of about 50 cm across at a range of one kilometre, and the very large number of shots in each battery pack means that it is possible to sweep the battlefield with the beam. The weapon is silent and the beam is invisible.

The specialists then studied the possibilities for medical treatment and means of protection and concluded that neither was adequate. Damage to the retina is permanent and irreparable; vision loss caused by haemorrhage might be successfully treated in only a small minority of cases and even in those cases the long-term outcome would be doubtful.

Protection by special goggles would also seem to be largely illusory, as they would only screen out a limited range of known wavelengths, whereas lasers can operate over a wide range of wavelengths.

***Functional disabilities and psychological problems that would be caused by blinding weapons as compared with those caused by other weapons***

In making this assessment, the specialists drew attention to a number of considerations specific to blindness:

There is no prosthesis to reduce the effect of the disability, and in functional terms blindness is an exceptionally severe handicap, even when compared with the worst of injuries.

Rehabilitation training for the blind is essential, but it is not available everywhere, and it also gives rise to major difficulties:

- a. the learning process is long and very complex;
- b. a psychologically robust personality is needed to undertake this learning effort, but people who have been blinded usually suffer from severe depression and cannot do it well;
- c. comparatively satisfactory results are seen only in persons with a good education and sound financial, family and social support;
- d. successful rehabilitation allows recovery of only a fraction of the person's previous skills and he will always remain dependent to quite a large degree.

The experts stressed that blindness almost always causes very severe depression which in a large proportion of cases lasts for many years, if not permanently.

Another matter of importance in a war context is the prevalence of an extreme fear of blindness; for the majority of people it is the most dreaded injury and soldiers are no exception. If soldiers are aware of the existence of weapons that can silently and invisibly blind them, there will be an increased incidence of combat stress disorder during battle and such weapons will cause more mental illness in the long term.

The medical experts thought that public reaction to blindness caused by weapons especially used for that purpose is likely to be very negative, as the public in general tend to feel special pity for blind persons. They likened the fear of blindness and the probable reactions to blindness-inducing weapons to the fear and disgust aroused by chemical weapons.

Finally, the experts pointed out that large numbers of blind persons would put an exceptionally heavy burden on medical and social services and on society in general.

***Foreseeable situation if there were to be widespread use of anti-sensor/anti-personnel laser weapons***

There would evidently be an increase in the numbers of blind servicemen returning from war. The number of eye injuries has steadily increased from 0.5%

in the last century to between 5 and 9 % in the Vietnam war. The increase is said to be due to the effects of fragmentation weapons. It has been estimated that if anti-sensor lasers were used, but not to target the human eye, eye injuries would nevertheless increase by 2-3%. If, however, lasers were to be used intentionally to inflict blindness, so that blinding as a method of warfare became common practice, serious damage to the eye might account for between 25% and 50% of all casualties.

The experts also pointed out that laser weapons could easily be used to cause terror outside armed conflict situations by repressive regimes, terrorists or criminals. Since such weapons are so light and easy to transport, proliferation would be inevitable.

### ***Legal and policy considerations***

The final expert meeting was attended by 37 government officials, participating in their personal capacity, from 22 countries. They considered the legal and policy implications of the information gathered by the scientists.

The present lawfulness of the use of blinding weapons was discussed mainly in the light of the rule prohibiting the use of weapons of a nature to cause unnecessary suffering and superfluous injury. One participant was of the opinion that any intentional blinding would violate this rule, including the use of lasers to blind the pilots of aircraft. The majority of participants, however, thought that the most controversial use of lasers would be against infantry, as the latter can easily be put out of action by means other than blinding. There was a division of opinion, however, as to whether such use is already illegal under existing law.

The majority of participants thought that whatever the assessment of the present lawfulness of such use, it should be subject to legal regulation because there are important policy reasons for prohibiting blinding as a method of warfare. Many thought that such a prohibition ought to be introduced simply because blinding weapons are horrific and therefore totally unacceptable. The various possibilities for legal regulation were discussed and are outlined below.

#### **(ii) Possibilities for legal regulation**

##### ***Humanitarian law***

Several approaches have been used to prohibit or restrict the use of certain weapons in international humanitarian law; it is possible to consider which would be the most appropriate by analogy in the case of blinding laser weapons:

##### **a. Prohibition of the use of a certain type of weapon**

This was the method used for chemical weapons and dum-dum bullets, because it was recognized that the overall dangers represented by the use of

such weapons outweighed their military utility. In the case of laser weapons, this could involve prohibiting the use of all or of some types of anti-sensor/anti-personnel weapons. The difficulty is that these weapons can be used for both anti-sensor and anti-personnel purposes, but it could be decided that those more obviously suited to anti-personnel purposes should be prohibited.

b. Prohibition of certain uses of a particular weapon

Examples of limitations of this type are seen in some military manuals which prohibit the use of incendiary weapons against unprotected soldiers, or state that explosive bullets may be used against objects but not persons. In the case of laser weapons, such a regulation could prohibit the use of lasers against persons, or against certain classes of persons, e.g., infantry.

c. Prohibition of the use of weapons which have a certain effect, without mentioning the weapon by name

An example of this type of provision is Protocol I to the 1980 Weapons Convention, which prohibits the use of any weapon the primary effect of which is to injure by fragments which cannot be detected by X-rays.

In the case of laser weapons, a norm of this type could read as follows:

*"The use of weapons the primary effect of which is to damage eyesight is prohibited."*

Such an approach would have the advantage of covering not only lasers whose primary effect is to blind but also any other future weapons which may have this effect. A disadvantage is that such a wording may give rise to arguments as to whether blinding is a *primary* effect, given that these lasers can also have other uses (anti-sensor in particular), and that at the end of their range they only have a dazzle effect. This wording would not cover intentional blinding by the misuse of other systems such as range-finders.

d. Prohibition of certain types of behaviour without any reference to the characteristics of a weapon

This alternative could concentrate on the prohibition of blinding or of the use of weapons with the primary intention or expected result of permanently damaging eyesight. A norm of this type could be worded as follows:

"blinding as a method of warfare is prohibited",

or

*"blinding as a method of rendering a combatant hors de combat is prohibited"*.

Alternatively, the wording of the rule could be more specific, such as:

*“weapons may not be used against persons with the primary intention or expected result of permanently damaging their eyesight”.*

Such an approach could also include rules that create a duty to take precautions to avoid accidental blinding by weapons that are particularly dangerous for eyesight.

### ***Arms control regulation***

States might wish to think about prohibitions or limitations on the production of certain types of lasers that could be too easily misused to blind because of their particular features, e.g., tunability, power, portability. Other possibilities would be regulations to prevent undesirable proliferation, or policies favouring eye-safe lasers for range-finding, etc., in order to prevent avoidable cases of blindness.

## **II. Unexploded sub-munitions**

Unexploded sub-munitions are remnants of war that in many ways represent the same type of threat to the civilian population as anti-personnel landmines.

Sub-munitions are bomblets which are delivered by aircraft or by artillery, rockets or guided missiles. The bomblets are assembled in “clusters” of hundreds or even thousands and delivered from aircraft dispensers, artillery shells or rocket or missile warheads. The bomblets are small (typically under 800 grams and under 7 cm in diameter) and can contain various payloads for use against different targets, such as a high explosive inside a controlled-fragmentation casing, a shaped charge (with or without a fragmentation casing), or a high explosive combined with an incendiary material. They may be fitted with an impact fuse (with or without a delay mechanism) or a proximity fuse.

Unlike landmines, which cause casualties among the civilian population when they are functioning normally, these bomblets create a similar situation as a result of malfunction, namely, when they have not exploded on impact and are left lying on or near the surface of the ground in an unstable condition.

Bomblets have reportedly had very high failure rates — up to 40%, depending on the state of the ground (the rate is usually higher on soft ground) and on meteorological conditions (especially if the soil is covered with snow). Once on the ground and unexploded, some of these bomblets are extremely unstable. They are liable to explode at any time and can be triggered by even the slightest movement of the ground on which they are lying, such as vibrations caused by people walking or a moving vehicle.

Clearing this unexploded munition is very difficult. If the bomblets are in an unstable condition, is it not possible to touch them and they cannot be neutralized. They must therefore be destroyed, but this too can be difficult. Indeed, it is very risky even to approach them as this might disturb the ground and trigger their explosion.

The use of cluster bombs has increased tremendously over the last 30 years.

Like anti-personnel mines, they have been used as area denial weapons. This means that very large quantities of unexploded bomblets are now threatening the civilian population and, unless some solution is found, their numbers will increase.

### **Possible solution**

This lack of reliability in exploding at the intended time has prompted many manufacturers of bomblets to include self-destruct devices in their new models now in production. It is suggested that as the incorporation of such self-destruct devices is clearly a technical possibility, and acceptable to manufacturers, the Review Conference should seriously consider making such a measure mandatory.

## **III. Small-calibre weapon systems**

During the United Nations Conference that led to the adoption of the 1980 Convention, the governments of Mexico and Sweden submitted a draft protocol on the regulation of the use of small-calibre weapon systems.

The Conference felt that further research was necessary to establish more accurately the wounding effects of new types of bullets in order to prevent an unnecessary increase in their injurious effects. The Conference therefore adopted a resolution on small-calibre weapon systems, at its seventh plenary meeting on 23 September 1979, expressing the view that:

“...such research, including testing of small-calibre weapon systems, should be continued with a view to developing standardized assessment methodology relative to ballistic parameters and medical effects of such systems.”

The resolution also invited “Governments to carry out further research, jointly or individually... and to communicate, where possible, their findings”, and to “exercise the utmost care in the development of small-calibre weapon systems, so as to avoid an unnecessary escalation of the injurious effects of such systems”.

A considerable amount of research has taken place since the adoption of this resolution and has confirmed that energy transfer is the most important factor for wound severity. High energy transfer, resulting in more severe wounds, is often caused by early turning of the bullet once it hits the body and by the break-

up of the bullet. These phenomena can be caused by poor stability and by the construction of the bullet itself, especially the materials used and the thickness and toughness of the jacket.

On the basis of this information, some States have taken steps to improve the design of their bullets, in particular to increase their resistance to fragmentation so as to conform to the letter and the spirit of the Hague Declaration of 1899 which prohibits the use of expanding bullets.

Standardization of the testing of bullets would be a very important step towards clarification of manufacturing specifications in order to ensure that bullets do not fragment easily. To this end, the Swiss government has offered (in a diplomatic note of November 1991) to put its anti-personnel weapon test facilities at the disposal of all interested States.

The Review Conference could consider the most appropriate way to take these developments into account.

#### **IV. Naval mines**

In November 1991, the government of Sweden submitted to the First Committee of the United Nations General Assembly a working paper and a draft Protocol on Prohibitions or Restrictions on the Use of Naval Mines. This draft was presented as an additional protocol to be attached to the 1980 Convention on certain conventional weapons.

The only existing treaty regulating the use of naval mines is the 1907 Hague Convention Relative to the Laying of Automatic Submarine Contact Mines (Hague Convention VIII). Although this Convention is still in force and has the effect of preventing the indiscriminate use of naval mines, it is clear that it has become outdated in certain respects. In particular, it makes specific reference to automatic contact mines and does not take later technical developments into account.

It would therefore be appropriate to consider this draft during the Review Conference with a view to adopting a new protocol to the 1980 Convention.

The draft will need to be studied with care to make certain that it does not in any way provide less protection than the 1907 Hague Convention. In this respect, it should be noted that Article 5 of the Hague Convention provides very clear guidelines as to which party is responsible for clearing mines after the conflict. This question is a critical one from a humanitarian point of view and the new protocol should not be weaker in this respect. The other provisions can be studied in the light of suggested new rules relating to landmines, taking into account considerations peculiar to the naval context.

## V. Future weapons

The Conference of Government Experts that met in Lucerne and Lugano in 1974 and 1976, and whose findings served as a basis for the United Nations Conference that adopted the 1980 Convention, discussed a number of futuristic weapons. These included laser weapons, microwave, infrasound, and light-flash devices, environmental warfare and electronic warfare.

The experts recognized that at that time it was too early to consider specific restrictions on devices that were only at the research stage. However, the majority stressed the importance of keeping a close watch on developments in order to introduce specific prohibitions or limitations that might be necessary before the weapon in question became widely accepted. Several experts underlined the importance of national review measures, which are now required under Article 36 of Additional Protocol I of 1977, as well as of international review measures.

As regards the futuristic weapons discussed at the Lucerne/Lugano Conference, developments in laser technology have raised the possibility of one disturbing application, namely, the use of lasers as anti-personnel weapons to damage eyesight. This matter is referred to above under the heading "Blinding weapons".

There has also been further research into other new technologies, in particular directed energy weapons such as high-power microwave and infrasound devices. Although it may be too early to consider the need for specific regulation, it should be recognized that such future developments are subject to the standards of humanitarian law. In particular, it is important to ensure that new weapons do not have indiscriminate effects and that they do not contravene the rule prohibiting the use of weapons of a nature to cause unnecessary suffering or superfluous injury to combatants. With regard to the interpretation of this latter rule, reference can be made to the standard on which it was originally based, namely, the provision in the 1868 St. Petersburg Declaration which states that weapons which "uselessly aggravate the sufferings of disabled men or render their death inevitable" are "contrary to the laws of humanity".