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UNITED NATIONS CONFERENCE ON PROHIBITIONS
OR RESTRICTIONS OF USE OF CERTAIN
CONVENTIONAL WEAPONS WHICH MAY BE
DEEMED TO BE EXCESSIVELY INJURIOUS OR
TO HAVE INDISCRIMINATE EFFECTS
Geneva, 10-28 September 1979

REPORT OF THE PREPARATORY CONFERENCE FOR THE UNITED NATIONS
CONFERENCE ON PROHIBITIONS OR RESTRICTIONS OF USE OF CERTAIN
CONVENTIONAL WEAPONS WHICH MAY BE DEEMED TO BE EXCESSIVELY
INJURIOUS OR TO HAVE INDISCRIMINATE EFFECTS

Note of transmittal

Pursuant to rule 11 of its rules of procedure, the Preparatory Conference submits herewith a report on its first and second sessions to the United Nations Conference on Prohibitions or Restrictions of Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects.

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FIRST SESSION

I. INTRODUCTION

1. At its thirty-second session the General Assembly adopted, under the item entitled "Incendiary and other specific conventional weapons which may be the subject of prohibitions or restrictions of use for humanitarian reasons", resolution 32/152, the operative part of which reads as follows:

"The General Assembly,

"1. Believes that the work on such weapons should both build upon the areas of common ground thus far identified and include the search for further areas of common ground and should in each case seek the broadest possible agreement;

"2. Decides to convene in 1979 a United Nations conference with a view to reaching agreements on prohibitions or restrictions of the use of specific conventional weapons, including those which may be deemed to be excessively injurious or to have indiscriminate effects, taking into account humanitarian and military considerations, and on the question of a system of periodic review of this matter and for consideration of further proposals;

"3. Decides to convene a United Nations preparatory conference for the conference referred to in paragraph 2 above and requests the Secretary-General to transmit invitations to all States and parties invited to attend the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts;

"4. Recommends that the Preparatory Conference for the United Nations Conference on Prohibitions or Restrictions of Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects should meet once in 1978 for organizational purposes and, subsequently, with the task of establishing the best possible substantive basis for the achievement at the United Nations Conference of agreements as envisaged in the present resolution and of considering organizational matters relating to the holding of the United Nations Conference;

"5. Requests the Secretary-General to assist the Preparatory Conference in its work;

"6. Decides to include in the provisional agenda of its thirty-third session an item entitled 'United Nations Conference on Prohibitions or Restrictions of Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects: report of the Preparatory Conference'."

2. In the course of informal consultations among Member States held in New York during and after the thirty-second session of the General Assembly, an agreement was reached to convene the Preparatory Conference at Geneva from 28 August to 15 September 1978.

3. Pursuant to paragraph 3 of the resolution, the Secretary-General addressed a note verbale, dated 12 May 1978, to all Member States and observer States inviting them to participate in the Preparatory Conference. 1/ On the instructions of the Secretary-General, the Assistant Secretary-General for Disarmament, in notes verbales dated 24 May and 21 July 1978, extended an invitation to attend the Preparatory Conference to all other parties referred to in the above-mentioned paragraph.

II. ORGANIZATION OF THE PREPARATORY CONFERENCE

4. The Preparatory Conference was convened on 28 August 1978 at the Palais des Nations in Geneva for a three-week session. The representative of the Secretary-General, Mr. Rolf Björnerstedt, Assistant Secretary-General for Disarmament, opened the session and read out a message from the Secretary-General to the Preparatory Conference.

5. The Secretary-General appointed Ms. Amada Segarra as the Executive Secretary of the Preparatory Conference. 2/

6. At its 2nd plenary meeting, the Preparatory Conference elected by acclamation as its President Mr. Oluyemi Adeniji, Permanent Representative of Nigeria to the Office of the United Nations and Other International Organizations at Geneva.

7. At its 7th plenary meeting, the Preparatory Conference elected by acclamation 13 Vice-Presidents from the following Member States: Bulgaria, Egypt, German Democratic Republic, Germany, Federal Republic of, India, Indonesia, Jamaica, Jordan, Panama, Peru, Sweden, Yugoslavia and Zaire. At the same meeting, Mr. Robert Akkerman of the Netherlands was elected by acclamation as Rapporteur of the Preparatory Conference.

8. At its 15th plenary meeting, the Preparatory Conference, on the recommendation of the President, appointed the following five members of the Credentials Committee Ecuador, Morocco, Poland, Syrian Arab Republic and United States of America.

9. At its 3rd plenary meeting, the Preparatory Conference adopted the provisional agenda, including the oral amendment, proposed from the Chair at the 2nd plenary meeting, to add a new item 3 entitled "General debate" and to renumber the subsequent items accordingly (A/CONF.95/PREP.CONF./3).

1/ Participation in the Diplomatic Conference was open to all Member States of the United Nations and parties to the Geneva Conventions of 12 August 1949: Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea (United Nations, Treaty Series, vol. 75, No. 971, p. 85), Convention Relative to the Treatment of Prisoners of War (ibid., No. 972, p. 135), and Convention Relative to the Protection of Civilian Persons in Time of War (ibid., No. 973, p. 287).

2/ From 4 September 1978 to the end of the first session Mr. Alessandro Corradini was the Acting Executive Secretary of the Preparatory Conference.

10. At its 16th plenary meeting, the Preparatory Conference adopted the draft rules of procedure as amended and revised in the course of their consideration, with the exception of the rules pertaining to decision-making and interrelated rules (A/CONF.95/PREP.CONF./4). In its deliberation on that remaining issue, two viewpoints were expressed. One that the rules of procedure of the General Assembly should apply and, the other, that decisions on substantive matters should be adopted by consensus. Various ways of reconciling those approaches were discussed, but it was recognized that this question will require further examination at the next session of the Preparatory Conference.

A. Participation at the first session

11. Representatives of the following 74 States participated in the first session of the Preparatory Conference:

Algeria	Madagascar
Argentina	Malaysia
Australia	Malta
Austria	Mexico
Bangladesh	Mongolia
Belgium	Morocco
Bolivia	Netherlands
Brazil	New Zealand
Bulgaria	Nicaragua
Canada	Nigeria
Chile	Norway
Cuba	Pakistan
Czechoslovakia	Panama
Denmark	Peru
Ecuador	Philippines
Egypt	Poland
Finland	Portugal
France	Republic of Korea
German Democratic Republic	Romania
Germany, Federal Republic of	Spain
Ghana	Sri Lanka
Greece	Sudan
Hungary	Sweden
India	Switzerland
Indonesia	Syrian Arab Republic
Iran	Thailand
Iraq	Togo
Ireland	Tunisia
Israel	Turkey
Italy	Union of Soviet Socialist Republics
Jamaica	United Kingdom of Great Britain and Northern Ireland
Japan	United States of America
Jordan	Uruguay
Kuwait	Venezuela
Liberia	Viet Nam
Libyan Arab Jamahiriya	Yugoslavia
Luxembourg	Zaire

12. Representatives of the following four national liberation movements participated in the Preparatory Conference:

African National Congress (South Africa)
Palestine Liberation Organization
Pan Africanist Congress of Azania (South Africa)
Patriotic Front (Zimbabwe)

13. In addition, representatives of the following five organizations attended the Preparatory Conference as observers:

Comité International de la Croix-Rouge
International Civil Defence Organization
Ordre Souverain de Malte
Organization of American States
United Nations Environment Programme

14. The following non-governmental organizations attended the Preparatory Conference:

Friends World Committee for Consultation
Institut Henry-Dunant
Institut International de Droit Humanitaire
International Commission of Jurists
Ligue des Sociétés de la Croix-Rouge
World Muslim Congress
World Peace Council
World Veterans Federation
World Young Women's Christian Association

15. The Credentials Committee met on 14 September 1978 and reported on the credentials of States to the 16th plenary meeting, on 14 September 1978. The Preparatory Conference took note of the report at the same meeting.

B. Work of the first session

16. The Preparatory Conference held 17 plenary meetings and a number of informal meetings. In the general debate, 30 States and six observers made statements, referring both to procedural and substantive issues.

C. Documentation of the first session

17. At its 4th plenary meeting, the Preparatory Conference requested the Secretariat to make available to it certain relevant documents of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law applicable in Armed Conflicts. Pursuant to this request the following documents were distributed:

- A/CONF.95/PREP.CONF./CRP.1 Report of the Ad Hoc Committee on Conventional Weapons of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law applicable in Armed Conflicts, first session, Geneva, 20 February to 29 March 1974 (CDDH/47/Rev.1) - first session
- A/CONF.95/PREP.CONF./CRP.2 - ditto - (CDDH/220/Rev.1) - second session
- A/CONF.95/PREP.CONF./CRP.3 - ditto - (CDDH/IV/237/Rev.1) - third session
- A/CONF.95/PREP.CONF./CRP.4 - ditto - (CDDH/IV/225 as amended by CDDH/408) - fourth session
- A/CONF.95/PREP.CONF./CRP.5 - ditto - (CDDH/IV/218) - Comparative table of proposals

18. The Secretariat, also at the request of the Preparatory Conference, prepared a paper listing comparable rules relating to the making of decisions from recent conferences convened by both the United Nations and other authorities (A/CONF.95/PREP.CONF./CRP.6).

19. In the course of the work of the Preparatory Conference the following documents dealing with substantive issues pertaining to item 4 of the agenda were submitted at the first session:

- (a) Draft proposal on incendiary weapons, submitted by Austria, Egypt, Ghana, Jamaica, Mexico, Romania, the Sudan, Sweden, Switzerland, Togo, Venezuela, Yugoslavia and Zaire (A/CONF.95/PREP.CONF./L.1/Rev.1, and Rev.1/Add.1 and Add.2).
- (b) Draft proposal on fuel-air explosives, submitted by Mexico, Sweden and Switzerland (A/CONF.95/PREP.CONF./L.2/Rev.1).
- (c) Working paper on certain small calibre weapons and projectiles, submitted by Mexico, Sweden and Zaire (A/CONF.95/PREP.CONF./L.3 and Corr.1, French only).
- (d) Draft clauses relating to the prohibition of the use of incendiary weapons, submitted by Mexico (A/CONF.95/PREP.CONF./L.4).
- (e) Draft clauses relating to the prohibition of the use of especially injurious small-calibre projectiles, submitted by Mexico (A/CONF.95/PREP.CONF./L.5).
- (f) Draft clause relating to the prohibition of the use of anti-personnel fragmentation weapons, submitted by Mexico (A/CONF.95/PREP.CONF./L.6).
- (g) Draft clause relating to the prohibition of the use of flechettes, submitted by Mexico (A/CONF.95/PREP.CONF./L.7).
- (h) Preliminary outline of a general and universally applicable treaty on conventional weapons, submitted by Mexico (A/CONF.95/PREP.CONF./L.8 and Corr.1).

- (i) Proposal on the regulation of the use of landmines and other devices: draft articles for a treaty. Submitted by Australia, Austria, Denmark, France, Germany, Federal Republic of, Mexico, the Netherlands, New Zealand, Norway, Spain and the United Kingdom of Great Britain and Northern Ireland (A/CONF.95/PREP.CONF./L.9 and Corr.1 and Add.1).
- (j) Draft proposal concerning non-detectable fragments, submitted by Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Federal Republic of, Greece, Ireland, Italy, Jamaica, Mexico, Morocco, the Netherlands, New Zealand, Norway, Panama, the Philippines, Portugal, Romania, Spain, the Sudan, Sweden, Switzerland, the Syrian Arab Republic, Togo, the United Kingdom of Great Britain and Northern Ireland, the United States of America, Venezuela, Yugoslavia and Zaire (A/CONF.95/PREP.CONF./L.10, Add.1 and Add.2).
- (k) Draft proposal on incendiary weapons, submitted by Australia and the Netherlands (A/CONF.95/PREP.CONF./L.11).
- (l) Draft proposal on incendiary weapons, submitted by Denmark and Norway (A/CONF.95/PREP.CONF./L.12).

The above-mentioned documents are contained in annex I to the present report.

III. DECISIONS ADOPTED AT THE FIRST SESSION

20. Subject to confirmation by the General Assembly, the Preparatory Conference decided to hold another session from 19 March to 12 April 1979 at Geneva, during which the work would be completed with regard to the remaining organizational matters, and, simultaneously, on the establishment of the best possible substantive basis for the achievement at the United Nations Conference of agreements as envisaged in General Assembly resolution 32/152.

21. The Preparatory Conference decided that Arabic, Chinese, English, French, Russian and Spanish should be the working languages used throughout its work and that provision be made for summary records of the plenary meetings and of the meetings of one subsidiary organ, if established. It accordingly recommended that appropriate decisions should be taken by the General Assembly.

IV. RECOMMENDATIONS MADE AT THE FIRST SESSION

22. At its 15th and 16th plenary meetings, the Preparatory Conference decided to submit the recommendations set forth below to the General Assembly at its thirty-third session with regard to its future work and the holding of the United Nations Conference on Prohibitions or Restrictions of Use of Certain Conventional Weapons Which May be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects.

23. The Preparatory Conference **recommended that States should make a maximum effort** to be represented at its second session and that such representation should include expertise on the substantive issues to be dealt with.

24. The Preparatory Conference recommended that the United Nations Conference on Prohibitions or Restrictions of Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects should be convened at Geneva from 10 to 28 September 1979.

SECOND SESSION

I. INTRODUCTION

25. In the report of the Preparatory Conference to the General Assembly on the work of its first session, which was held at Geneva from 28 August to 15 September 1978, it was stated that the Preparatory Conference had decided, subject to confirmation by the General Assembly, to hold another session from 19 March to 12 April 1979, also at Geneva, during which the work would be completed with regard to the remaining organizational matters and the establishment of the best possible substantive basis for the achievement at the United Nations Conference of agreements as envisaged in General Assembly resolution 32/152. 3/

26. The General Assembly, by its resolution 33/70 of 14 December 1978 inter alia, endorsed that decision. In addition, it took note of the report of the Preparatory Conference on its first session and of the progress made with respect to organizational aspects. The operative part of resolution 33/70 reads as follows:

"The General Assembly,

...

"1. Takes note of the report of the Preparatory Conference for the United Nations Conference on Prohibitions or Restrictions of Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects on its first session and of the progress made with regard to organizational aspects;

"2. Notes that a number of proposals on the substantive work of the United Nations Conference were introduced and views exchanged on them;

"3. Reaffirms its belief that the United Nations Conference should strive to reach agreement on specific instruments in the field of certain conventional weapons which may be deemed to be excessively injurious or to have indiscriminate effects;

"4. Endorses the decision of the Preparatory Conference to hold another session from 19 March to 12 April 1979 with a view to continuing its preparatory work in respect of both the organizational and the substantive aspects of the United Nations Conference;

"5. Reaffirms its decision that the United Nations Conference should be held in 1979 and endorses the recommendation of the Preparatory Conference that it should be held at Geneva from 10 to 28 September 1979.

"6. Invites States to participate actively in the further work of the Preparatory Conference and in the United Nations Conference itself and to be represented, in so far as possible, by the required legal, military and medical expertise;

3/ Official Records of the General Assembly, Thirty-third Session, Supplement No. 44 (A/33/44), para. 20.

"7. Requests the Secretary-General to provide continued assistance to the Preparatory Conference in its work and to undertake the necessary preparations for the holding of the United Nations Conference;

"8. Decides to include in the provisional agenda of its thirty-fourth session an item entitled "United Nations Conference on Prohibitions or Restrictions of Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects: report of the Conference."

II. ORGANIZATION OF THE SECOND SESSION

27. Pursuant to paragraph 4 of General Assembly resolution 33/70, the second session of the Preparatory Conference was opened on 19 March 1979 by the President of the Conference. All the officers of the Preparatory Conference elected at the first session continued to serve in that capacity throughout the second session.

A. Participation at the second session

28. Representatives of the following 68 States participated in the second session of the Preparatory Conference:

Algeria	Indonesia	Poland
Argentina	Iran	Portugal
Australia	Iraq	Republic of Korea
Austria	Ireland	Romania
Belgium	Israel	Spain
Brazil	Italy	Sudan
Bulgaria	Jamaica	Sweden
Byelorussian Soviet Socialist Republic	Japan	Switzerland
Canada	Kenya	Syrian Arab Republic
Cuba	Libyan Arab Jamahiriya	Thailand
Cyprus	Luxembourg	Tunisia
Czechoslovakia	Madagascar	Turkey
Denmark	Malta	Ukrainian Soviet Socialist Republic
Ecuador	Mexico	Union of Soviet Socialist Republics
Egypt	Mongolia	United Kingdom of Great Britain and Northern Ireland
Finland	Morocco	United States of America
France	Netherlands	Uruguay
German Democratic Republic	New Zealand	Venezuela
Germany, Federal Republic of	Nigeria	Viet Nam
Ghana	Norway	Yugoslavia
Greece	Pakistan	Zaire
Hungary	Panama	
India	Peru	
	Philippines	

29. In addition, representatives of the following national liberation movements participated in the second session: Palestine Liberation Organization, Pan Africanist Congress of Azania (South Africa) and Patriotic Front (Zimbabwe).

30. Representatives of the following organizations also attended the second session as observers: International Committee of the Red Cross, Sovereign Order of Malta and World Federation of United Nations Associations.

31. The following non-governmental organizations attended the second session: Friends World Committee for Consultation, Institut Henry-Dunant, Institut international de droit humanitaire, International Commission of Jurists, World Jewish Congress, World Medical Association and World Young Women's Christian Association.

32. The Credentials Committee met on 9 April 1979 and reported on the credentials of States to the 26th plenary meeting on 11 April 1979 (A/CONF.95/PREP.CONF./8). The Preparatory Conference took note of that report at the same meeting.

B. Work of the second session

33. The Preparatory Conference, during its second session, held 11 plenary meetings (18th-28th meetings) as well as a number of informal plenary meetings during which statements were made with regard to agenda items 3, 4 and 5.

34. At the 19th plenary meeting, the Preparatory Conference decided to establish a working group to consider the draft proposals on non-detectable fragments (A/CONF.95/PREP.CONF./L.10 and Add.1-3, reproduced in annex I, J) and on the regulation of the use of landmines and other devices (A/CONF.95/PREP.CONF./L.9 and Corr.1 and Add.1 reproduced in annex I, I). The Rapporteur of the Preparatory Conference, Mr. R. J. Akkerman (Netherlands), was elected Chairman of the Working Group. At the 26th plenary meeting, the Preparatory Conference considered and adopted the report of the Working Group (A/CONF.95/PREP.CONF./10), which appears as annex II to this report.

35. At the 19th plenary meeting, the Preparatory Conference decided to consider the question of incendiary weapons in informal plenary meetings. After a number of meetings had been held the Preparatory Conference, at its 25th formal plenary meeting, decided to establish a drafting group on incendiary weapons under the chairmanship of Lt.-Col. Rolf Felber (German Democratic Republic). At the 27th plenary meeting, the Preparatory Conference considered and adopted the report of the Drafting Group (A/CONF.95/PREP.CONF./11), which appears as annex III to this report.

36. On 5 April, at an informal plenary meeting, the Preparatory Conference decided to establish an informal working group on small calibre weapons systems under the chairmanship of Mr. R. J. Akkerman (Netherlands). At the 26th plenary meeting, the Preparatory Conference considered and adopted the report of the Informal Working Group (A/CONF.95/PREP.CONF.9 and Corr.1), which appears as annex IV to this report.

37. Concerning the questions of fuel-air explosives, anti-personnel fragmentation weapons and flechettes, brief discussions took place at plenary meetings. Time did not allow for their discussion in more detail, therefore agreement thereon could not be reached. These questions are recommended for further study by countries, with a view to their discussion during the United Nations Conference.

38. In the course of its work, the Preparatory Conference considered the question of the rules pertaining to decision making and related rules of its rules of procedure (A/CONF.95/PREP.CONF./4) which could not be adopted at the first session. The Preparatory Conference was unable to reach agreement on the method of decision making in a formal rule of procedure. Notwithstanding that fact, during its two sessions, the Preparatory Conference, in practice, conducted its work and reached decisions, including the adoption of the report and the appointment of officials of the Preparatory Conference, without resorting to voting.

39. The Preparatory Conference recommends to the United Nations Conference the provisional rules of procedure contained in document A/CONF.95/PREP.CONF./7 and Corr.1 and 2, with the exception of the rules set out in chapter VI, entitled "Decision-making", and with the necessary adjustments to reflect the deletion of that chapter as well as with the changes approved at the 27th plenary meeting. The rules as recommended now appear in document A/CONF.95/2.

40. At the 21st plenary meeting, the representative of Mexico made a statement on the proposal that Mexico had submitted at the first session of the Preparatory Conference containing a preliminary outline of a general and universally applicable treaty with optional protocols or clauses which would embody such prohibitions or restrictions of use of certain conventional weapons deemed to be excessively injurious or to have indiscriminate effects as might be negotiated at the United Nations Conference (A/CONF.95/PREP.CONF./L.8 and Corr.1). In the ensuing discussion a number of delegations stressed the general usefulness of an umbrella treaty. At the same time, it was noted that the structure and content of such a treaty would depend on the number and scope of the prohibitions or restrictions that were eventually agreed upon for the categories of weapons under consideration. The discussion indicated that there was considerable interest in the subject and that the proposal submitted by Mexico provided a good basis for further work thereon. In view of the importance of this issue, the Preparatory Conference recommends that it be taken up in a subsidiary organ of the Conference which should commence its work immediately after the opening of the Conference.

41. At its 27th plenary meeting, the Preparatory Conference approved the provisional agenda of the United Nations Conference on Prohibitions or Restrictions of Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects (A/CONF.95/1).

C. Documentation of the second session

42. In the course of the work of the Preparatory Conference at its second session, the following documents dealing with substantive issues pertaining to item 4 of the agenda were submitted:

- (a) Draft proposal on incendiary weapons, submitted by Indonesia (A/CONF.95/PRFP.CONF./L.13);
- (b) Draft proposal on the regulation of the use of small calibre weapon systems, submitted by Mexico and Sweden (A/CONF.95/PRFP.CONF./L.14);
- (c) Draft proposal on incendiary weapons, submitted by Australia and the Netherlands (A/CONF.95/PRFP.CONF./L.15).

The above-mentioned documents are contained in annex I to the present report.

ANNEX I

Documents submitted to the Preparatory Conference

- A. Draft proposal on incendiary weapons submitted by Austria, Egypt, Ghana, Jamaica, Mexico, Romania, the Sudan, Sweden, Switzerland, Togo, Venezuela, Yugoslavia and Zaire*

[Original: English/Spanish]

1. The use of incendiary weapons shall be prohibited.
2. This provision shall apply to:

The use of any munition which is primarily designed to set fire to objects or to cause burn injury to persons through the action of flame and/or heat produced by a chemical reaction of a substance delivered on the target. Such munitions include flame-throwers and incendiary shells, rockets, grenades, mines and bombs.

3. This prohibition shall not apply to:

(a) Munitions which may have secondary or incidental incendiary effects, such as illuminants, tracers, smoke or signalling systems;

(b) Munitions which combine incendiary effects with penetration or fragmentation effects and which are specifically designed for use against aircraft, armoured vehicles and similar targets.

The Governments of Jamaica and Mexico continue to be in favour of eliminating the exception contained in subparagraph 3 (b) in order that the prohibition of incendiary munitions is total.

- B. Draft proposal on fuel-air explosives submitted by Mexico, Sweden and Switzerland**

[Original: English]

The States Party to this Protocol,

Aware of the continuous development of new types of blast weapons, in particular of the fuel-air explosives,

* Previously issued under the symbol A/CONF.95/PREP.CONF./L.1/Rev.1 and Rev.1/Add.1 and 2.

** Previously issued under the symbol A/CONF.95/PREP.CONF./L.2/Rev.2.

Anxious to prevent the use of weapons in a manner which may cause unnecessary suffering to combatants or render their death inevitable,

Have agreed to abstain from the use of munitions which rely for their effects on shock waves caused by the detonation of a cloud created by a substance spread in the air, except when the aim is exclusively to destroy material objects, such as the clearance of mine fields.

C. Working paper on certain small calibre weapons and projectiles submitted by Mexico, Sweden and Zaire*

[Original: English]

During the diplomatic conference on international humanitarian law 1973-1977, the conferences of government experts at Luzern in 1974 and Lugano in 1976 considerable discussion has taken place on the question of certain modern small calibre projectiles and the arms by which they are launched. Proposals and working papers have been submitted suggesting restrictions as regards the design of these weapons. These proposals, papers and reports of debates are part of the documentation of the present conference and remain relevant for the discussion.

The task of the preparatory conference is, inter alia, to establish the best possible substantive basis for agreements. The present working paper is submitted in order to facilitate the discussion of the question of certain small calibre weapons and projectiles.

During the last few years a rapid development has taken place as regards a new generation of assault rifles and projectiles with a calibre of less than the traditional 7.62 mm. The aim of these efforts has been to introduce lighter weapons and ammunition, enabling soldiers to carry more rounds of ammunition. A flatter trajectory has been another feature following an increase in the velocity of the projectiles. The evident military advantages of such lighter weapons and ammunition have prompted several countries and weapons manufacturers to design and produce weapons of this new type.

Soon after the first deployment of one type of this new generation of assault rifles serious concern was voiced in medical circles that it produced extensive wounds and massive tissue destruction outside the wound channel. Indeed, it seemed to some that these weapons inflicted wounds similar to the dumdum type wounds. Accordingly, the design and development of weapons and ammunition of this kind evoked much discussion - and research. It was felt that unless some restraints were agreed internationally as regards undesirable characteristics of such modern small calibre weapons systems an escalation in the wounding power of one of the world's most common weapons would be inevitable - with the additional suffering and injury inherent in such development. The question arose: would this not be "unnecessary suffering and superfluous injury"? Could it not be avoided? That is still the question.

* Previously issued under the symbol A/CONF.95/PREP.CONF./L.3 and Corr.1, French only.

Today's situation is somewhat reminiscent of what happened at the end of the 19th century, when the dum dum bullet was introduced in some military forces. Public opinion in many States was alarmed by the severe wounding effect of these bullets and at the 1899 Hague Conference a new rule was worked out prohibiting the use of bullets which expand or flatten easily in the human body such as bullets with a hard envelope which does not entirely cover the core or is pierced with incisions. Weapons and bullets of this kind caused grave injuries and the effects were considered contrary to the 1868 St. Petersburg declaration, which states that the general aim in fighting is to put enemy soldiers out of action/hors de combat. Furthermore, it is stated in that declaration that the injuries should not needlessly aggravate the sufferings of disabled soldiers and make their death inevitable.

Bearing these old rules in mind we now have to assess the effects of the introduction of a new generation of small calibre weapons. It is necessary to study in detail the injuries caused by these new small calibre bullets. This is a complicated matter as difficult ballistic and medical problems are involved.

For many years there has been a general agreement on the fact that the extent of wounds are directly related to the transfer of energy from the projectile to the tissues surrounding the missile track. The more energy released in the wound, the more tissue destruction will result. This concept is confirmed by recent research work.

In the earliest phases of this research interest centred on the increased velocity of the new bullets and velocity was sometimes considered the main factor in the wounding mechanism. However, it was soon found that although velocity plays an important role it was not the predominant factor in this connexion.

The transfer of energy depends upon various parameters. The most important one is the tumbling of the bullet during penetration of the target. When a bullet tumbles in a human target the displayed cross-section area of the bullet increases and its front shape becomes more disadvantageous, so that energy is transferred from the bullet at a very high rate. This process is analogous to that of the dum dum bullet that deformed in a mushroom shape and thereby caused transfer of much of its energy with grave tissue destruction as a result. Some of the new bullets seem to tumble very soon after impact. This enables the bullets to cause grave destruction of tissue in most human wounds since the tumbling can take place in the tissue even if rather thin parts of the body are hit. The similarity to the action of the dum dum bullet is obvious. The sooner the tumbling occurs the more similar the bullet becomes to the dum dum bullet. The early tumbling thus constitutes a decisive factor in wound ballistics. The processes just described are schematically demonstrated in figure 1.

That the energy transfer can be further increased when a bullet breaks up or deforms during penetration of the body was observed already at the time of the dum dum bullet. A break-up may occur when the bullet tumbles rapidly - which is likely to put a particularly severe strain on the bullet. As a rule the deformation of a bullet will increase the energy transfer in the wound.

Tumbling and break-up can occur also when bullets of calibre 7.62 mm and larger calibres are used. These phenomena usually start at a later point after impact, however, and will, therefore, have a more limited influence on the wounding effect, since most human wounds have a short missile trajectory.

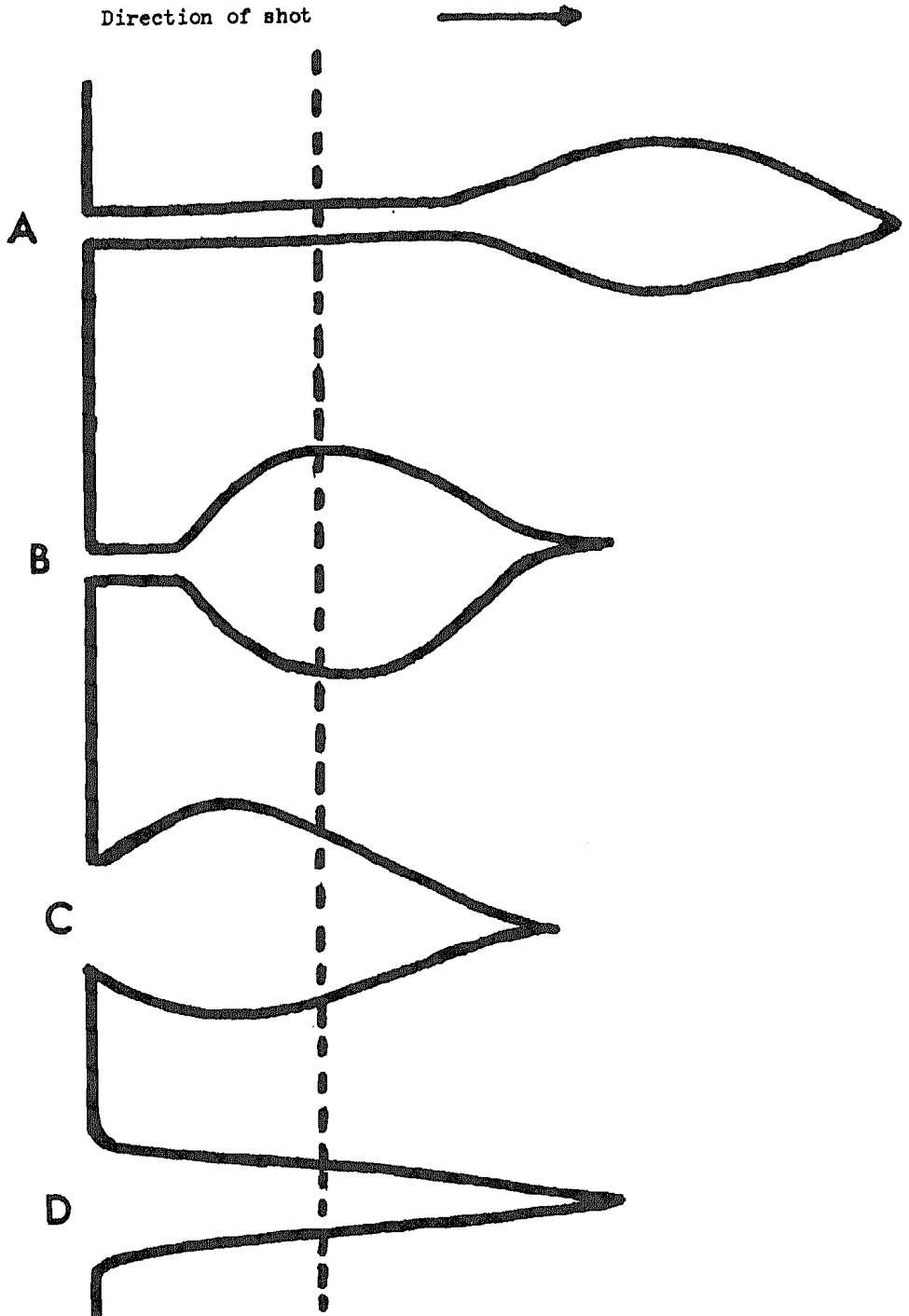


Figure 1. Schematic pictures of cavities in an infinite plastic medium caused by projectiles with various stabilities and shapes, but of the same kinetic impact energy.

- A. Very stable, shaped projectile
- B. Unstable, shaped projectile
- C. Dumdum type of projectile
- D. Spherical projectile

The dotted line illustrates a target of limited thickness.

In the early phases of the discussion on the most modern generation of projectiles it was thought that all of these bullets had a tendency for early tumbling. Research has shown, however, that some small calibre bullets remain quite stable after impact. The conclusion is that, even if many 5.56 mm and smaller bullets are apt to tumble early, this propensity can be decreased by proper design and a balanced spin rate.

The wounding capacity of a bullet can hardly be decided only by theoretical calculations alone - there is also a need for continued testing. Intensive research work in this field has now given us a very good background for establishing testing methods which are simple and easy to apply in all countries. Difficulties in this regard are no longer a valid counter-argument against legal restraints in this field.

Conclusions

1. It has been demonstrated that some small calibre weapons systems more frequently cause extensive wounds than the traditional weapons using bullets of the calibre 7.62 mm.
2. It has further been established that the amount of energy that is transferred to the tissues is decisive for the extent of the resulting injury.
3. The 1899 declaration prohibited the use of projectiles which caused extensive wounds by expanding or flattening easily in the human body. The rationale of this rule would seem to apply to any weapon which achieved the same effects through early tumbling.
4. The additional injurious effect which seems to be connected with some modern small calibre weapons and projectiles is not a feature that is inevitable in designing smaller and lighter weapons and projectiles.
5. The discussion and research on the international and national levels should focus on a new rule or understanding ensuring that the weapons developments in this field do not bring more severe injuries than those connected with the traditional standard weapons in this category.

D. Draft clauses relating to the prohibition of the use of incendiary weapons submitted by Mexico*

/Original: Spanish/

1. It is prohibited to use incendiary weapons.
2. The prohibition referred to in the foregoing article shall apply to the use of any munition which is primarily designed to set fire to objects or to cause burn injury to persons through the action of flame and/or heat produced by a chemical reaction of the substance delivered on the target. Such munitions include flame-throwers, incendiary shells, rockets, grenades, mines and bombs.

* Previously issued under the symbol A/CONF.95/PREP.CONF./L.4.

3. The prohibition referred to in article 1 above shall not apply to munitions which may have secondary or incidental incendiary effects, such as illuminants, tracers, smoke or signalling systems.

E. Draft clauses relating to the prohibition of the use of especially injurious small-calibre projectiles submitted by Mexico*

/Original: Spanish/

It is prohibited to use small-calibre projectiles which are so designed or have such velocity that they:

- (a) Break or deform on or following entry into a human body; or
- (b) Tumble significantly within the human body; or
- (c) Create shock waves which cause extensive tissue damage outside the trajectory; or
- (d) Produce secondary projectiles within a human body.

F. Draft clause relating to the prohibition of the use of anti-personnel fragmentation weapons submitted by Mexico **

/Original: Spanish/

Anti-personnel cluster warheads or other devices with many bomblets which act through the ejection of a great number of small-calibre fragments or pellets are prohibited for use.

G. Draft clause relating to the prohibition of the use of flechettes submitted by Mexico***

/Original: Spanish/

Munitions which act through the release of a number of projectiles in the form of flechettes, needles and similar, are prohibited for use.

* Previously issued under the symbol A/CONF.95/PREP.CONF./L.5.
** Previously issued under the symbol A/CONF.95/PREP.CONF./L.6.
*** Previously issued under the symbol A/CONF.95/PREP.CONF./L.7.

H. Preliminary outline of a treaty submitted by Mexico*

Introductory note

/Original: Spanish/

In its resolution 32/152 of 19 December 1977, the General Assembly decided, inter alia, "to convene in 1979 a United Nations conference with a view to reaching agreements on prohibitions or restrictions of the use of specific conventional weapons, including those which may be deemed to be excessively injurious or to have indiscriminate effects, taking into account humanitarian and military considerations, and on the question of a system of periodic review of this matter and for consideration of further proposals".

The General Assembly also decided to convene a preparatory conference "with the task of establishing the best possible substantive basis" for the above-mentioned Conference.

In the same resolution, the General Assembly expressed its belief that "the work on such weapons should both build upon the areas of common ground thus far identified and include the search for further areas of common ground and should in each case seek the broadest possible agreement".

At the 3rd plenary meeting of the Preparatory Conference, the delegation of Mexico stated, at the commencement of the general debate, that the President of Mexico, José López Portillo, had, without implying any alteration of the priorities established by the United Nations for disarmament negotiations, laid down as one of the goals of Mexico's foreign policy the important task of reaching universal and regional agreements on the prohibition or restriction of the use and transfer of certain conventional weapons as a means of transferring the resources currently devoted to the acquisition of arms to more noble causes, such as that of solving the grave problem of hunger afflicting the world.

On the same occasion, the Mexican delegation said, inter alia, that such world-wide prohibitions and limitations as might be negotiated should preferably be embodied "in a convention establishing general guidelines and in optional protocols on specific types of conventional weapons deemed to be excessively injurious or indiscriminate in effect".

The delegation of Mexico hereby respectfully submits hereunder for consideration by the Preparatory Conference, and possibly by the Conference itself, as a step towards the achievement of this important objective, the text of a universal agreement on this subject, with the aim of initiating the process of negotiation concerning concrete ideas, independently of the other proposals which the Mexican delegation may consider it appropriate to submit in the near future concerning prohibitions or limitations on the use of specific conventional weapons.

* Previously issued under the symbol A/CONF.95/PREP.CONF./L.8 and Corr.1.

PRELIMINARY OUTLINE OF A GENERAL AND UNIVERSALLY APPLICABLE TREATY
ON CONVENTIONAL WEAPONS

The States Parties,

Inspired by their firm desire to eliminate violence as a means of resolving international conflicts, on the basis of the principles and purposes of the Charter of the United Nations and of other relevant international instruments consistent with that Charter,

Further inspired by the way in which the organized international community has been able to develop the aforementioned principles and purposes so as to adapt them to the requirements of the world in which we live, thus reaffirming their universal validity,

Reaffirming the necessary political will to continue the codification and progressive development of the rules of international law applicable to cases of armed conflict, without thereby abandoning the necessary continuous search for effective arrangements to assure a just peace in the maintenance of which all peoples of the world will participate and from which they will benefit,

Declaring that, until the important task of regulating all aspects of warlike activity permitted by the Charter of the United Nations is completed, bearing in mind the humanitarian character of that instrument, the States Parties consider it desirable to confirm their determination that, in the event of an armed conflict, the civilian population and the combatants should at all times remain under the protection of the applicable international law, as developed by the conventions on the subject and by the relevant resolutions of the United Nations and other intergovernmental organizations,

Basing themselves on the principle that the right of the parties to an armed conflict to choose the methods and means of combat is not unlimited,

Recalling the principle placing a prohibition on the use of warlike weapons, projectiles, materials and methods which cause unnecessary damage or suffering,

Decide:

(1) To establish the prohibitions and limitations defined in the following optional protocols (clauses), which shall be applied in the light of this Treaty;

(2) To respect such regional or subregional decisions as may be taken by the countries directly involved concerning self-imposed limits on the transfer and use of particular conventional weapons, taking this factor into account in considering any case which may or does endanger international peace and security, in accordance with the Charter of the United Nations;

(3) To establish a Committee, formed by all the States Parties, which shall meet at least once a year and which shall have the task of conducting a periodic review, on the basis of developments in technology and applicable humanitarian and military factors, of the prohibitions and/or limitations

embodied in the different protocols (clauses), on the understanding that, in any particular case, only those countries which are bound by a specific protocol (clause) shall have the right to vote.

OPTIONAL PROTOCOLS (CLAUSES)

- I. Incendiary weapons.
- II. Delayed action weapons and treacherous weapons (including mines and booby-traps).
- III. Small-calibre projectiles which produce especially injurious effects.
- IV. Blast and fragmentation weapons.

Note: In this section, the titles of the document or comparative table circulated by the Secretariat are taken as a basis; they do not necessarily reflect all the weapons in respect of which Mexico will be submitting proposals.

FINAL CLAUSES

1. This Treaty shall be open to signature by all States.
2. This Treaty shall be open to ratification by all signatories, such ratification to be effective only when the State concerned indicates the optional protocol or protocols (clauses) the obligations of which it accepts.
3. The depositaries shall be the following States ... and, after ..., the Secretary-General of the United Nations.
4. This Treaty shall enter into force when the fifth State has deposited its instrument of ratification, subject to the qualification referred to in paragraph 2 above.

Note: The final clauses are not exhaustive and only those which are directly related to the special character of this Treaty have been included.

- I. Proposal on the regulation of the use of landmines and other devices: Draft articles for a treaty, submitted by Australia, Austria, Denmark, France, Germany, Federal Republic of, Mexico, the Netherlands, New Zealand, Norway, Spain and the United Kingdom of Great Britain and Northern Ireland*

[Original: English]

Article 1. Scope of application

This Treaty relates to the use in armed conflict on land of the mines and other devices defined therein. It does not apply to the use of anti-ship mines at sea or in inland waterways, but does apply to mines laid in interdict beaches, waterway crossings or river crossings.

* Previously issued under the symbol A/CONF.95/PREP.CONF./L.9 and Corr.1 and Add.1.

Article 2. Definitions

For the purpose of this Treaty:

- (1) "Mine" means any munition placed under, on or near the ground or other surface area and designed to be detonated or exploded by the direct action, presence or proximity of a person or vehicle;
- (2) "Booby-trap" means a manually-emplaced device which is specifically designed and constructed to kill or injure when a person disturbs or approaches an apparently harmless object or performs an apparently safe act;
- (3) "Remotely delivered mine" means any mine delivered by artillery, rocket, mortar or similar means at a range of over 1,000 metres or dropped from an aircraft;
- (4) "Military objective" means, so far as objects are concerned, any object which by its own nature, location, purpose or use makes an effective contribution to military action and whose total or partial destruction, capture or neutralization in the circumstances ruling at the time, offers a definite military advantage.

Article 3. Recording of the location of minefields and other devices

- (1) The parties to a conflict shall record the location of:
 - (a) All preplanned minefields laid by them;
 - (b) All areas in which they have made large-scale and pre-planned use of booby-traps.
- (2) The parties shall endeavour to ensure the recording of the location of all other minefields, mines and booby-traps which they have laid or placed in position.
- (3) All such records shall be retained by the parties and the location of all recorded minefields, mines and booby-traps remaining in territory controlled by an adverse party shall be made public after the cessation of active hostilities.

Article 4. Restrictions on the use of remotely delivered mines

The use of remotely delivered mines is prohibited unless:

- (a) Each such mine is fitted with an effective neutralizing mechanism, that is to say a self-actuating or remotely controlled mechanism which is designed to render a mine harmless or cause it to destroy itself when it is anticipated that the mine will no longer serve the military purpose for which it was placed in position; or
- (b) The area in which they are delivered is marked in some definite manner in order to warn the civilian population,

and, in either case, they are only used within an area which is itself a military objective or which contains military objectives.

Article 5. Restrictions on the use of mines and other devices in populated areas

(1) This Article applies to mines (other than remotely delivered mines), booby-traps, and other manually-emplaced munitions and devices designed to kill, injure or damage and which are actuated by remote control or automatically after a lapse of time.

(2) It is prohibited to use any object to which this Article applies in any city, town, village or other area containing a similar concentration of civilians in which combat between ground forces is not taking place or does not appear to be imminent, unless either:

- (a) They are placed on or in the close vicinity of a military objective belonging to or under the control of an adverse party; or
- (b) Effective precautions are taken to protect civilians from their effects.

Article 6. Prohibitions on the use of certain booby-traps and other devices

(1) It is prohibited in any circumstances to use:

- (a) Any apparently harmless portable object which is specifically designed and constructed to contain explosive material and to detonate when it is disturbed or approached; or
- (b) Any non-explosive device or any material which is designed to kill or cause serious injury in circumstances involving superfluous injury or unnecessary suffering, for example by stabbing, impaling, crushing, strangling, infecting or poisoning the victim and which functions when a person disturbs or approaches an apparently harmless object or performs an apparently safe act.

(2) It is prohibited in any circumstances to use booby-traps which are in any way attached to or associated with:

- (a) Internationally recognized protective emblems, signs or signals;
- (b) Sick, wounded or dead persons;
- (c) Burial or cremation sites or graves;
- (d) Medical facilities, medical equipment, medical supplies or medical transport;
- (e) Children's toys;
- (f) Food and drink (except in military establishments, military locations and military supply depots);
- (g) Objects clearly of a religious nature.

- J. Draft proposal concerning non-detectable fragments submitted by Australia, Austria, Belgium, Bulgaria, the Byelorussian Soviet Socialist Republic, Canada, Cuba, Denmark, Finland, France, the German Democratic Republic, Germany, Federal Republic of, Greece, Hungary, Ireland, Italy, Jamaica, Mexico, Morocco, the Netherlands, New Zealand, Norway, Panama, the Philippines, Poland, Portugal, Romania, Spain, the Sudan, Sweden, Switzerland, the Syrian Arab Republic, Togo, the Ukrainian Soviet Socialist Republic, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, the United States of America, Venezuela, Yugoslavia and Zaire*

/Original: French/

It is prohibited to use any weapon the primary effect of which is to injure by fragments which in the human body escape detection by X-rays.

- K. Draft proposal on incendiary weapons submitted by Australia and the Netherlands**

/Original: English/

1. Definitions

(a) An incendiary munition is any munition which is primarily designed to set fire to objects or to cause burn injury to persons through the action of flame and/or heat produced by a chemical reaction of a substance delivered on the target;

(b) A flame munition is any incendiary munition in which the incendiary agent to be delivered on the target is based on a gelled hydrocarbon. Napalm is a flame munition.

2. Rules

(a) As a consequence of the rules of international law applicable with respect to the protection of the civilian population against the effects of hostilities, it is prohibited to make any concentration of civilians the object of attack by means of any incendiary munition. Concentrations of civilians can either be of a permanent character, such as cities, towns and villages, or of a temporary character, such as camps and columns of refugees or evacuees;

(b) Specific military objectives that are situated within a concentration of civilians may be made the object of attack by means of incendiary munitions, provided that the attack is otherwise lawful and that all feasible precautions are taken to limit the incendiary effects to all specific military objectives and to avoid incidental loss of civilian life or injury to civilians;

(c) In order to reduce to a minimum the risks posed to civilians by the use of flame weapons, it is prohibited to make any specific military objective that is situated within a concentration of civilians the object of aerial attack by means of napalm or other flame munition unless that objective is located within an area in which combat between ground forces is taking place or appears to be imminent.

* Previously issued under the symbol A/CONF.95/PREP.CONF./L.10 and Add.1 and 2; subsequently several delegations joined as sponsors in A/CONF.95/PREP.CONF./L.10/Add.3.

** Previously issued under the symbol A/CONF.95/PREP.CONF./L.11.

L. Draft proposal on incendiary weapons submitted by
Denmark and Norway*

Original: English

USE OF TERMS

1. For the purpose of this proposal:

(a) "Incendiary weapon" means any munition which is primarily designed to set fire to objects or to cause burn injury to persons through the action of flame and/or heat produced by a chemical reaction of a substance delivered on the target but does not include:

- (i) Any munition which may have secondary or incidental incendiary effects, such as illuminants, tracers, smoke or signalling systems; or
- (ii) Any munition which relies for its principal effect upon fragmentation, penetration or blast and which has, in addition, an incendiary effect;

(b) "Concentration of civilians" means either a permanent concentration of civilians such as is found in cities, towns and villages or a temporary concentration of civilians such as in camps and columns of refugees or evacuees;

(c) "Military objective" means, so far as objects are concerned, any object which by its nature, location, purpose or use makes an effective contribution to military action and whose total or partial destruction, capture or neutralization in the circumstances ruling at the time, offers a definite military advantage;

(d) "Feasible precautions" means those precautions which are practicable or practically possible taking into account all circumstances ruling at the time including those relevant to the success of military operations.

RULES

2. It is prohibited to make the civilian population or individual civilians the object of attack by incendiary weapons.

3. It is prohibited to make any military objective located within a concentration of civilians the object of attack by incendiary weapons delivered by aircraft, except when that military objective is clearly separated and distinct from the civilian population.

4. It is prohibited to make military personnel as such the object of attack by incendiary weapons, except when

- (i) the personnel is engaged or about to engage in combat or being deployed for combat engagement, or
- (ii) the personnel is under armoured protection, in field fortification or under similar protection.

* Previously issued under the symbol A/CONF.95/PREP.CONF./L.12.

5. whenever an attack is made by incendiary weapons in accordance with the above provisions and other applicable rules of international law, all feasible precautions shall be taken to limit the effects of such attack to the military objective itself with a view to avoiding, and in any event to minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects.

M. Draft proposal on incendiary weapons
submitted by Indonesia*

Original: English

Treaty on restriction of the use of Incendiary Weapons

1. For the purpose of this Treaty:

"Incendiary weapon" means any weapon which for its munition uses any munition which is primarily designed to cause burn injury to persons or to set fire to objects through the action of flame and/or heat produced by a chemical reaction of a substance dispersed over the target. Such weapons include flame throwers, all incendiary bombs, rockets, grenades, mines and other kinds of munitions containing scatter type agents.

2. It is prohibited to use incendiary weapons in all circumstances, except:

- (a) Against military objects other than personnel, provided that these objects are not within civilian population centres.
- (b) Against combatants holding positions in field fortifications such as bunkers and pill-boxes where the use of alternate weapons will inevitably render more casualties.

3. This prohibition shall not apply to:

- (a) Weapons which possess a combined primary effect of penetration, fragmentation and a secondary incendiary effect and which are only used against aircraft and armoured vehicles.
- (b) Incendiaries for purposes other than causing damage or injury such as illuminants, tracers and signal munitions.

* Previously issued under the symbol A/CONF.95/PREP.CONF./L.13.

N. Draft proposal on the regulation of the use of small calibre
weapon systems* submitted by Mexico and Sweden**

[Original: English/Spanish]

The High Contracting Parties

Aware of the continuous development of small calibre weapon systems (arms and projectiles),

Anxious to prevent an increase of the injurious effects of such weapon systems,
Desiring, for this reason, to supplement the agreement embodied in The Hague Declaration of 29 July 1899, to abstain from the use of bullets which expand or flatten easily in the human body,

Have agreed to the following Protocol:

Article 1 Scope of application

This Protocol relates to the use in armed conflict of projectiles of small calibre, intended for effect by direct hits in a human body.

Article 2 Definitions

For the purpose of this Protocol: .

- (1) "small calibre" means the calibres of small arms, such as pistols, rifles and assault rifles, and of light and medium machine-guns
- (2) "energy transfer" means the deposition of part of the projectile's kinetic or other energy in the target during penetration
- (3) "Energy transfer characteristics" means a general description of how and where the energy of a projectile is released in the target

* The preamble and structure of the present Protocol does not prejudice the possible general form and contents of an "umbrella" treaty on certain conventional weapons as proposed by Mexico in document A/CONF.95/PREP.CONF./L.8.

** Previously issued under the symbol A/CONF.95/PREP.CONF./L.14.

(4) "tissue simulant" means any material of such properties that a correlation can be established between the behaviour of projectiles penetrating it and that of projectiles penetrating muscle tissue. The energy transfer caused by the projectile under similar circumstances must, especially, be the same.

(5) "tumble" means for the projectile to deviate from its normal, head-on position and to display increasing angles between its axis of symmetry and its trajectory.

Article 3 Restrictions on the use of some projectiles

(1) It is prohibited to use small calibre projectiles which cause a high energy transfer close to the point of impact in a human body.

Such an energy transfer may be caused by:

- (a) projectiles which expand or flatten easily in the human body, such as projectiles with a hard envelope which does not entirely cover the core or is pierced with incisions,
- (b) projectiles which tumble rapidly after impact in the human body,
- (c) projectiles which break easily in the human body, and,
- (d) projectiles which contain a chemical agent which is brought to explode in the human body.

(2) This prohibition does not include projectiles clearly not intended for direct hits in human targets, such as fragmentation shell.

Appendix Testing of arms and projectiles

(1) Whether a projectile conforms to the rule laid down in article 3 of this Protocol shall be determined by testing its energy transfer characteristics.

(2) The testing shall be performed against targets of tissue simulant at ranges between 50 and 100 metres.

(3) Projectiles which cause an average energy transfer exceeding Y Joules per millimetre within the first seventy (70) millimetres, or exceeding Z Joules per millimetre within the first one hundred and forty (140) millimetres of a long simulant target, shall be deemed not to conform to the rule.

0. Draft proposal on incendiary weapons submitted
by Australia and the Netherlands*

[Original: English]

Definitions

For the purpose of this proposal:

1. A concentration of civilians means such a concentration of civilians as is found in the inhabited parts of cities, towns and villages or any similar concentration, such as in camps or columns of refugees or evacuees.
2. Feasible means that which is practicable or practically possible taking into account all circumstances ruling at the time including those relevant to the success of military operations.
3. An incendiary munition is any munition which is primarily designed to set fire to objects or to cause burn injury to persons through the action of flame and/or heat produced by a chemical reaction of a substance delivered on the target, but does not include:
 - (a) any munition which may have secondary or incidental incendiary effects, such as illuminants, tracers, smoke or signalling systems, or
 - (b) any munition which relies for its principal effect upon fragmentation, penetration or blast and which has, in addition, an incendiary effect.
4. A flame munition is any incendiary munition in which the incendiary agent to be delivered on the target is based on a gelled hydrocarbon. Napalm is a flame munition.
5. Military objective means, so far as objects are concerned, any object which by its nature, location, purpose or use makes an effective contribution to military action and whose total or partial destruction, capture or neutralization in the circumstances ruling at the time, offers a definite military advantage.

* Previously issued under the symbol A/CONF.95/PREP.CONF./L.15.

Rules

1. As a consequence of the rules of international law applicable with respect to the protection of civilians against the effects of hostilities, it is prohibited to make the civilian population as such as well as individual civilians the object of attack by means of incendiary munition.
2. Subject to rule 3 a military objective that is situated within a concentration of civilians may be made the object of attack by means of incendiary munitions, provided that the attack is otherwise lawful and that all feasible precautions are taken to limit the incendiary effects to the military objective and to avoid incidental loss of civilian life or injury to civilians.
3. In order to reduce to a minimum the risks posed to civilians by the use of flame weapons, it is prohibited to make any military objective that is situated within a concentration of civilians the object of aerial attack by means of napalm or other flame munitions.

ANNEX II

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

The Working Group held 10 meetings under the chairmanship of Mr. R. J. Akkerman (Netherlands). It discussed documents A/CONF.95/PREP.CONF./L.10 and Add.1 to 3 and A/CONF.95/PREP.CONF.L/9 and Corr.1 and Add.1.

Unanimous agreement was concluded on the first document containing a draft proposal on non-detectable fragments. The document is attached to the present report as appendix A.

Discussion of the second document containing a proposal on the regulation of the use of landmines and other devices ^{a/} resulted in general agreement on an amended text, which is attached as appendix B to the present report. Some areas of disagreement could not be solved; these are reflected in those parts of appendix B which are put between square brackets.

Article 1 of the proposal met with general approval. One delegation however suggested that the inclusion of the use of anti-ship mines at sea or in inland waters should be studied. There was also some support however for the suggestion that when the proposal (once it would have become law), would undergo review, extension of its application to the use of anti-ship mines at sea or in inland waterways, should be considered.

Article 2 - This Article was approved by the Working Group. However, agreement could not be reached on the qualification of "remote delivery" in paragraph 3. A number of delegations felt that no reference to a particular distance was appropriate, while others considered the reference was necessary. One of the delegations which was in favour of a reference to distance held the view that 2,000 metres was more appropriate than 1,000 metres in that respect, and expressed its preference to paragraph 2 not being applicable to mines delivered from helicopters. As regards paragraph 2 containing the definition of "booby-trap" it should be noted that this definition in conjunction with Article 6 prohibits the use of remotely delivered booby-traps.

* Previously issued under the symbol A/CONF.95/PREP.CONF./10.

^{a/} For the text of this proposal, see annex I, I.

Article 2 bis. - This Article as it appears in appendix B to this report is a new provision, not contained previously in document L.9. It repeats some of the rules contained in articles 51 and 57 of Protocol I to the Geneva Conventions in language applicable to the use of landmines and other devices. There was some support for the view expressed that overlapping between Article 2 bis and Article 5 should be avoided and a solution to that effect be studied. Some delegations pointed out that all or part of paragraph 3 and paragraph 4 might eventually be inserted in an umbrella treaty as proposed in document A/CONF.95/PREP.CONF./L.8, b/ if such a treaty were adopted. The Article received general support, except for the alternatives reflected between square brackets.

Article 3 - During consideration of paragraph 2 of this Article the view was expressed that the parties to a conflict should also attempt to mark all areas in which they had made pre-planned large-scale use of mines and booby-traps. When considering paragraph 3 several problems revealed themselves in relation to the publication of records concerning occupied territory as well as to a new suggestion to the effect that mines should be rendered ineffective after the cessation of active hostilities with the assistance of the party which had laid them. A sub-working group was set up under the Chairmanship of Brigadier Sir David Hughes-Morgan (United Kingdom). This subgroup presented a report on its deliberations to the Working Group. On the basis of that report the Working Group was able to commend the text of paragraph 3 as reflected in appendix B to this report, with the exception of one delegation to which this text was unacceptable as to its subparagraph (a). That delegation together with several other delegations, had in the subgroup, expressed preference for the following text of subparagraph (a):

- (3) All such records shall be retained by the parties and the location of all recorded minefields, mines and booby-traps remaining in territory controlled by an adverse party shall be made public after the cessation of active hostilities.

However these delegations would welcome any amendment to the above text with a view to incorporating therein notification to the Secretary-General of the United Nations when United Nations Forces were established.

It should be noted that in relation to sub-subparagraph (iv) final decision on the exact wording should not be taken until the United Nations Secretariat has been given an opportunity to express its views.

As to subparagraph (b) of paragraph 3 of Article 3, the Working Group was able to agree on the text with the exception of the insertion of the part of the sentence put between square brackets. It is understood that subparagraph (b) should in the final version of the proposal preferably appear as a new Article complete in itself, under a heading such as "Assistance in the removal of minefields, mines and booby-traps".

One delegation had, in the subgroup, not been able to accept the text of subparagraph (b) and had expressed preference for the following text:

- (b) Any party which, during a conflict, placed minefields, mines or booby-traps, or a combination thereof, on the territory of another party, shall be obliged to provide technical and material assistance to remove them or render them ineffective after the cessation of active hostilities. This obligation is:

- (i) without prejudice to the right to claim compensation;
- (ii) applicable to all minefields, mines and booby-traps remaining in position at the date this Convention enters into force, as well as to minefields, mines and booby-traps placed in position thereafter.

A number of delegations in the Working Group maintained preference for the above text. Other delegations had however, not been in a position to support the latter since the countries they represented could never accept being bound by the obligations contained therein.

The entire Article was then, in the Working Group, generally understood to form the most likely ground for general agreement.

The text of Article 4 was agreed to represent the possible ground on which the final proposal could be based. This conclusion cannot be interpreted as prejudicial to the position of a number of delegations who had expressed clear preference for a total ban on the use of remotely delivered mines. This is in particular applicable to the position of one delegation that had requested the insertion of square brackets wherever they appear in Article 4 as reflected in appendix B to the present report.

Article 5 received general support in the Working Group with the exception of the alternatives in paragraph 2 (b) which appear between square brackets. It was understood that "effective precautions" should be interpreted as those measures that can, at the time they are taken, objectively be expected to be effective. An accident for example resulting from a change of circumstances which could not be foreseen at the time the measures were taken and which resulted in rendering precautions less effective can therefore not in itself be taken to imply the conclusion that effective precautions had not been taken.

On the other hand it was also understood, on the basis of the above understanding, that the notion of "effective precautions" gives protection exceeding that afforded by "feasible precautions" since requirement of effectiveness impliedly prohibits the use of the items to which the Article applies when effective precautions cannot be taken. Conversely, the requirement of "all feasible precautions" would not prohibit the use if such precautions are not practicable or practically possible.

Notwithstanding the above interpretation one delegation maintained its preference for the use of the words "all feasible precautions".

Article 6 was generally agreed upon except for subparagraph (f) of paragraph 2 as concerns the text between square brackets and for subparagraph (i). The first text was suggested by one delegation and its insertion had been seconded by another delegation. A number of delegations however expressed the view that the list containing prohibited uses without the addition proposed, and without any other conceivable extension, struck the right humanitarian balance. The text for subparagraph (i) had been proposed by one delegation at a late stage and time did not permit its discussion. For this reason subparagraph (i) is also reflected between square brackets.

It is noted that one delegation had proposed consideration of enforcement of the protection of children to be provided by this Article. The Working Group received this proposal favourably. It is therefore understood that reflection thereon should be made and amendments to that effect should be considered before the document is submitted for adoption in its final form.

It should finally be stressed that adoption of the text attached as appendix B shall not be construed as prejudicing its final legal form, including the possible form of it being a part of any umbrella-type treaty and the possible form of an individual treaty.

APPENDIX A

Draft proposal concerning non-detectable fragments submitted by Australia, Austria, Belgium, Bulgaria, the Byelorussian Soviet Socialist Republic, Canada, Cuba, Denmark, Finland, France, the German Democratic Republic, Germany, Federal Republic of, Greece, Hungary, Ireland, Italy, Jamaica, Mexico, Morocco, the Netherlands, New Zealand, Norway, Panama, the Philippines, Poland, Portugal, Romania, Spain, the Sudan, Sweden, Switzerland, the Syrian Arab Republic, Togo, the Ukrainian Soviet Socialist Republic, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, the United States of America, Venezuela, Yugoslavia and Zaire (A/CONF.94/PREP.CONF./L.10 and Add.1-3) a/

It is prohibited to use any weapon the primary effect of which is to injure by fragments which in the human body escape detection by X-rays.

a/ See also annex I, J.

APPENDIX B

Proposal on the regulation of the use of landmines and other devices: draft articles for a treaty

Redraft of document A/CONF.95/PREP.CONF./L.9 and Corr.1 and Add.1 by the Chairman of the Working Group a/

Article 1. Scope of application

This Treaty relates to the use in armed conflict on land of the mines and other devices defined therein. It does not apply to the use of anti-ship mines at sea or in inland waterways, but does apply to mines laid to interdict beaches, waterway crossings or river crossings.

Article 2. Definitions

For the purpose of this Treaty:

- (1) "mine" means any munition placed under, on or near the ground or other surface area and designed to be detonated or exploded by the presence, proximity or contact of a person or vehicle;
- (2) "booby-trap" means any device or material which is designed, constructed or adapted to kill or injure and which functions unexpectedly when a person disturbs or approaches an apparently harmless object or performs an apparently safe act;
- (3) "remotely delivered mine" means any mine delivered by artillery, rocket, mortar or similar means [at a range of over [1,000] [2,000] metres] or dropped from an aircraft;
- (4) "military objective" means, so far as objects are concerned, any object which by its own nature, location, purpose or use makes an effective contribution to military action and whose total or partial destruction, capture or neutralization in the circumstances ruling at the time, offers a definite military advantage.

Article 2.bis General restrictions on the use of landmines, booby-traps and other devices

1. This Article applies to (a) mines, (b) booby-traps and (c) manually-emplaced munitions and devices designed to kill, injure or damage and which are actuated by remote control or automatically after a lapse of time.
2. It is prohibited in any circumstances (including reprisals) to direct weapons to which this Article applies against the civilian population as such or against individual civilians.
3. The indiscriminate use of weapons to which this Article applies is prohibited. Indiscriminate use is any placement of such weapons:
 - (a) which is not on, or directed against, a military objective; or
 - (b) which employs a method or means of delivery which cannot be directed at a military objective; or
 - (c) which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.

4. All feasible precautions shall be taken to protect civilians from the effects of weapons to which this Article applies. "Feasible precautions" are those which are practicable or practically possible [taking into account all circumstances ruling at the time, including those relevant to the success of military operations and the need to minimize incidental loss of civilian life, injury to civilians and damage to civilian objects] [taking into account military and humanitarian considerations].

Article 3. Recording and publication of the location of minefields, mines and booby-traps

(1) The parties to a conflict shall record the location of:

- (a) all pre-planned minefields laid by them; and
- (b) all areas in which they have made large-scale and pre-planned use of booby-traps.

(2) The parties shall endeavour to ensure the recording of the location of all other minefields, mines and booby-traps which they have laid or placed in position.

(3) (a) All such records shall be retained by the parties, who shall:

- (i) make available to each adverse party and to the Secretary-General of the United Nations as soon as possible after the cessation of active hostilities all information in their possession concerning the location of minefields, mines and booby-traps in the territory of such adverse party other than territory under the occupation or control of their own forces or allied forces; and
- (ii) whenever after the cessation of active hostilities their own forces or allied forces withdraw from the whole, or any part, of the territory of an adverse party which those forces had occupied or controlled, as soon as possible make available to such adverse party and to the Secretary-General of the United Nations all information in their possession concerning the location of minefields, mines and booby-traps in the area from which those forces had withdrawn; and
- (iii) whenever it is possible to do so, having regard to their legitimate defence interests, make public after the cessation of active hostilities information concerning the location of minefields, mines and booby-traps in any parts of their own territory occupied or controlled by the forces of an adverse party; and
- (iv) when United Nations forces or missions are established to perform peace-keeping, observation, fact-finding or similar functions in any area, make available to the Secretary-General of the United Nations all information in their possession concerning the location of minefields, mines and booby-traps in that area or, in the case of a small United Nations fact-finding mission on a temporary visit to such an area, take such other measures as may be necessary to protect the mission from the effects of minefields, mines and booby-traps while carrying out its duties.

- (b) After the cessation of active hostilities, the parties shall endeavour to reach agreement, both among themselves and, where appropriate, with other States and with international organizations, upon the provision of information and technical and material assistance [including, in proper circumstances, joint operations] necessary to remove or otherwise render ineffective minefields, mines and booby-traps placed in position during the conflict.

Article 4. Restriction on the use of remotely delivered mines

(1) The use of remotely delivered mines is prohibited unless (a) each such mine is fitted with an effective neutralizing mechanism, that is to say a self-actuating or remotely controlled mechanism which is designed to render a mine harmless or cause it to destroy itself when it is anticipated that the mine will no longer serve the military purpose for which it was placed in position, and (b) such mines are only used within an area which is itself a military objective [or which contains military objectives].

(2) Effective advance warning shall be given of any delivery or dropping of remotely delivered mines which may affect the civilian population, [unless circumstances do not permit.]

Article 5. Restrictions on the use of mines and other devices in populated areas

(1) This Article applies to: (a) mines (other than remotely delivered mines); (b) booby-traps, and (c) other manually-emplaced munitions and devices designed to kill, injure or damage and which are actuated by remote control or automatically after a lapse of time.

(2) It is prohibited to use weapons to which this Article applies in any city, town, village or other area containing a similar concentration of civilians in which combat between ground forces is not taking place or does not appear to be imminent, unless either:

- (a) they are placed on or in the close vicinity of a military objective belonging to or under the control of an adverse party; or
- (b) [effective] [all feasible] precautions are taken to protect civilians from their effects.

Article 6. Prohibitions on the use of certain booby-traps

(1) It is prohibited in any circumstances to use:

- (a) any booby-trap in the form of an apparently harmless portable object which is specifically designed and constructed to contain explosive material and to detonate when it is disturbed or approached, or
- (b) any booby-trap that is designed to cause superfluous injury or unnecessary suffering.

(2) It is prohibited in any circumstances to use booby-traps which are in any way attached to or associated with:

- (a) Internationally recognized protective emblems, signs or signals;
- (b) Sick, wounded or dead persons;
- (c) Burial or cremation sites or graves;
- (d) Medical facilities, medical equipment, medical supplies or medical transport;
- (e) Children's toys;
- (f) Food and drink [kitchen utensils and appliances] (except in military establishments, military locations and military supply depots);
- (g) Objects clearly of a religious nature;
- (h) Historic monuments, works of art or places of worship which constitute the cultural or spiritual heritage of peoples.
- [(i) animals and their carcasses].

ANNEX III

Report of the Drafting Group on Incendiary Weapons^{a/}

1. The Drafting Group held three meetings under the Chairmanship of Lt.-Col. R. Felber (German Democratic Republic).
2. The discussion of the Drafting Group was based on the various proposals on incendiary weapons submitted to the Preparatory Conference as well as on the suggestions put forward in the course of formal and informal plenary meetings.
3. As a result of a thorough exchange of views, the Drafting Group elaborated a composite text on elements of an agreement on incendiary weapons attached as an **appendix hereto**. These elements include definitions and rules.
4. The elements indicate a number of areas of agreement. However, on a number of issues agreement could not be reached. They are indicated by square brackets.
5. It should be noted that although the word "attack" was **not** bracketed, one delegation said it would prefer that in a final text that word be replaced and the sentences changed accordingly in order to reflect "prohibition of use".
6. It was understood that if in a final text reference to the protection of civilian objects is made, it would be necessary to include a definition on "civilian objects".

^{a/} Previously issued under the symbol A/CONF.95/PREP.CONF./11.

APPENDIX

Working paper of the Drafting Group on elements of an agreement
on incendiary weapons

Definitions

For the purpose of this agreement:

1. "Incendiary weapon" means any munition which is primarily designed to set fire to objects or to cause burn injury to persons through the action of flame, heat, or a combination thereof, produced by a chemical reaction of a substance delivered on the target.
2. Such weapons can take the form of, for example, flame throwers, shells, rockets, grenades, mines and bombs.
3. Such weapons do not include:
 - (i) munitions which may have secondary or incidental incendiary effects, such as illuminants, tracers, smoke or signalling systems;
 - [(ii) munitions which rely for their principal effect upon fragmentation, penetration or blast and which have secondarily an incendiary effect.]
4. "Flame weapon" is any incendiary munition in which the incendiary substance to be delivered on [, or dispersed over,] the target is based on a gelled hydrocarbon, such as napalm [or pyrophoric compounds.];
5. "Concentration of civilians" means any concentration, be it permanent or temporary, such as [found in inhabited parts of] cities, towns and villages or as in camps or columns of refugees or evacuees;
6. "Military objective" means, so far as objects are concerned, any object which by its nature, location, purpose or use makes an effective contribution to military action and whose total or partial destruction, capture or neutralization in the circumstances ruling at the time, offers a definite military advantage;
7. "Feasible precautions" are those precautions which are practicable or practically possible taking into account all circumstances ruling at the time.

Rules

[General Protection]

8. [It is prohibited to use incendiary weapons.]

[Protection of Civilians] [and civilian objects]

9. It is prohibited to make the civilian population as such or individual civilians [or civilian objects] the object of attack by incendiary weapons;

10. [(a) It is prohibited to make any military objective located within a concentration of civilians the object of attack by [incendiary weapons] [flame weapons] [except when that military objective is clearly separated and distinct from the concentration of civilians.] or
(b) It is prohibited to make any military objective located within a concentration of civilians the object of [attack by] [air-delivered incendiary weapons] [air-delivered flame weapons] [aerial attack by means of napalm or other flame weapons] [except when that military objective is clearly separated and distinct from the concentration of civilians.]]
[Protection of Combatants] [military personnel]

- [11. (a) It is prohibited to make combatants [military personnel] as such the object of attack by incendiary weapons;

or

- [(b) It is prohibited to use incendiary weapons against combatants [military personnel] except when they:

(i) are engaged in a combat situation where close air support is necessary;

(ii) are in, or in the vicinity of, a military objective such as, armoured vehicles, field fortifications, bunkers, pill-boxes [or other similar objective].]]

12. This provision is without prejudice to the protection given to non-combatant members of armed forces by the rules of international law applicable in armed conflict.

[General Provision]

13. Whenever incendiary weapons are used in circumstances not prohibited by these rules or other applicable rules of international law, all [feasible] [effective] precautions shall be taken to limit the effects of such attack to the specific military objective, so as to avoid incidental loss of civilian life, injury to civilians and damage to civilian objects.]

ANNEX IV

Report of the Informal Working Group on Small Calibre Weapons Systems^{a/}

The Informal Working Group held three meetings under the chairmanship of Mr. R. J. Akkerman (Netherlands).

The purpose of the working group was to provide for technical discussion and exchange of views on the question of small calibre weapons systems, using document A/CONF.95/PREP.CONF./L.14 b/ in conjunction with document A/CONF.95/PREP.CONF./L.3 c/ as a basis for discussions, but without seeking to reach agreement on specific texts.

The philosophy on which the document was based was the concept of relating wounding to energy transfer. This idea seemed potentially promising to some delegations, whereas others expressed reservations or confined their comments to the discussion of technical issues.

It was clear from the discussions that technical differences continue to exist and an appendix is attached showing some of the issues that were under discussion. While, in view of these differences, document L.14 was recognized as not being the final solution, the continuation of discussions seems useful and the following recommendations are made with a view to facilitating the work of the main conference and further study:

1. That countries consider the points dealt with in the appendix as being examples of the relevant questions that may be considered by their medical and technical experts.
2. That further research is encouraged particularly with a view to increasing knowledge in both medical and ballistics fields.
3. That countries consider the feasibility and appropriateness of using energy transfer as a means of relating weapons' capabilities to wounding.
4. That countries consider point 3 above in the light of the tentative suggestion of the sponsors of document L.14 that the Y and Z factors in the Appendix to that document might be approximated to those appertaining to the traditional 7.62 x 51 mm ball ammunition or similar projectile.
5. That countries consider the need for the standardization of the collection and reporting of wound data.
6. That countries consider, where possible, communicating information relating to their studies and experiments to the sponsors of document A/CONF.95/PREP.CONF./L.14, who would then make this information available to interested countries on request.

a/ A/CONF.95/PREP.CONF./9 incorporating Corr.1.

b/ See annex I, N.

c/ See annex I, C.

APPENDIX

1. There was discussion centred around whether it was the intention of Sweden/Mexico to include the entire weapons system in testing and limitations and the resultant ammunition/weapon interaction or only the ammunition effects alone. The Swedish delegation indicated consideration of the total system was appropriate. There was some discussion as to whether such a combination was necessary or practical.
2. There was discussion as to the distinction between bullets and projectiles and which was intended. The Swedish delegates indicated that they consider projectile to be a more inclusive term and that was the intention. There was also discussion as to the inclusion of tracer and explosive ammunition within the intended scope of the term projectile. There was inconclusive discussion as to what "projectile" included and what the implications are of such an interpretation.
3. There was a question of just how encompassing the term weapons systems was and there was some indication that it might include such elements as sighting systems but discussion as to the extent of consideration of the man interface with the armament was inconclusive.
4. Some discussion centred on the question of the condition of the particular weapons systems at the selected time for testing. That is, such factors as barrel wear must be considered because of the effect on bullet performance.
5. Discussion of the term high energy transfer ensued with the result that a specific level which defines "high" energy transfer was not available although the Swedish delegation offered that the levels approximately associated with 7.62 x 51 mm ball ammunition may be an appropriate basis for starting discussions. There was some indication that the concept of energy transfer at least seemed to be a reasonable path or approach to the problem.
6. There was a question of whether armour piercing ammunition was to be considered within the limitation proposed. The Swedish delegation indicated that armour piercing bullets were generally not to be considered except to the extent that they would be also intended for use against personnel. It was also noted that "behind armour effects" of armour piercing ammunition was not to be considered.
7. There was some discussion as to the issue of direct hits on the human body as compared to indirect hits. The discussion considered intervening items which could affect the bullet performance. The Swedish delegation indicated that the only practical means of testing would be on the basis of direct hits. It was also noted that L-14 did not propose to apply to fragmentation munitions such as rifle grenades or projectiles from grenade rifles.
8. There was a question raised as to the applicability of the proposal to weapons which could be possibly considered in the scope of the proposal but which possibly would not be directly so defined. The most obvious example proposed was laser weapons. The Swedish delegation indicated that they did not consider laser weapons to be within the scope of L-14.
9. There was a question of the terminology included within Article 3 as to the possible vagueness of such terminology as "high energy transfer", "tumble easily", "break up easily" and so forth. There was considerable discussion and some suggestions to eliminate much of the terminology and stay strictly with energy transfer.

10. There was a question as to the appropriateness of the limitation dealing with energy transfer "close to the point of impact". There was considerable discussion of the nature of early deposit versus late deposit of energy and the lengths of wound tracks.
11. There was discussion on the importance of the yaw angle of bullets and the relative angles of impact of bullets on the target material and some technical disagreement as to the relative function of the impact angle in considering wounding.
12. There was discussion as to the consideration of muscle tissue as the principal correlating tissue in the body. There was indication that in so far as wounds and not strictly incapacitation is concerned **many more tissues must be** considered. There was also indication that muscle tissue was sufficient to relate to other tissue. Technical disagreement exists as to the implications of selecting only muscle tissue as regards wounding.
13. There was a question as to the rationale of selection of 70 mm and 140 mm as representative of wound tracks. The Swedish delegation indicated that 140 mm was an approximation of the total body average thickness. Other discussion suggested that as to wounds of areas of the main body and not limbs much longer trajectories of averages around 250-300 mm might be appropriate and that wound tracks could reach 400 mm. Further discussion was inconclusive as to the implications and technical disagreement exists.
14. In connexion with the discussion on trajectory length the issue of distribution of hits over a human body was pursued. With aimed small calibre weapons hits are more often located in the head; neck and trunk than what are experienced with for instance hit distribution from a fragmentation shell. This necessitates further consideration both as regards trajectory length, incapacitation values and possibly the choice of tissue simulants which now are limited to muscle tissue.
15. In referring to the Y and Z factors in the appendix to the document L.14, one delegate mentioned that the 7.62 x 51 mm ball round produced a kinetic energy of 3348 Joules at muzzle velocity whereas the calibre .50 ball round produced over 22,000. It was pointed out by the Swedish delegation in the discussion that followed, that it is the energy imparted to the human body that matters, that the calibre .50 bullet does not tumble easily and that, in any event, it is intended for use against **materiel**. They also stated that if a 7.62 mm round were doubled in calibre, this would produce 4 times the amount of energy transfer, whereas if it tumbled it would produce about 20 times the amount of energy transfer. Another delegate stated that if used against a human target the calibre .50 round would cause a devastating wound. There was disagreement as to the assumption that the calibre .50 is principally used against **materiel**.
16. One delegation raised the question as to whether ammunition for national law enforcement agencies would be affected by this proposal. The Swedish delegation was of the opinion that this would not be the case as international law applicable in armed conflict did not apply to these situations. Another delegation brought up the question of what the implications would be in a military situation comparable with those typically encountered in police work, viz. point-blank encounters where the combatant is in obvious risk of receiving serious injury unless he can prevent the actions of the adversary party by immediate action and firing of his weapon. It was expressed by the Swedish delegation that in such cases, the location of the hit was considerably more important than the actual energy

transfer caused by the bullet. Such immediate incapacitation as sought under these circumstances could only be achieved by hits in the central nervous system, including about 15% of the body area. Even considerable increase of the energy transfer caused by the bullet would, in the opinion of that delegation, only cause a marginal increase of the probability of immediate incapacitation. This left open the question of "rapid" if not "immediate" incapacitation as a military requirement.

17. There was discussion as to the implications of ranges for testing. The view was expressed that more ranges and greater ranges had to be considered. There was inconclusive discussion as to the requirements for greater ranges and what ranges were reasonable. A key technical disagreement exists as to whether the simulated range approach is feasible.

18. There was discussion of the type of material necessary to be used as a simulant for tissue. It was recognized that this was a well known technical problem which has been and must be continued to be discussed and resolved in the future.

19. The methods of carrying out tests as envisaged in the appendix of document L.14 were briefly discussed. The orthogonal flash X-ray method of assessing bullet performance in a simulant was discussed and considered by some to be a reliable and accurate but also complex and expensive method. The Swedish delegation also mentioned that, in their opinion, it might be possible to determine energy transfer characteristics just by measuring the size of the cavity remaining in a simulant medium such as soft soap, provided it could be calibrated. Other methods of measuring energy transfer were mentioned, such as that of measuring impact and exit velocity in a short simulant block and calculating the corresponding energy loss, or that of utilizing a ballistic pendulum for the same purpose. Technical disagreement or reservation seemed to exist as to all discussed assessment methodology.