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Agenda item 64

CHEMICAL AND BACTERIOLOGICAL (BIOLOGICAL) WEAPONS

Report of the Secretary-General

1. At its thirty-seventh session, the General Assembly adopted resolution 37/98 D of 13 December 1982, the operative part of which read as follows:

"The General Assembly,

"...

"1. Calls upon all States that have not yet done so to accede to the 1925 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare; 1/

"2. Calls upon all States to comply with the provisions of the Protocol;

"3. Calls upon the Committee on Disarmament to expedite its negotiations on a convention on the prohibition of chemical weapons with a view to its submission to the General Assembly with the shortest possible delay;

"4. Requests the Secretary-General to investigate, with the assistance of qualified experts, information that may be brought to his attention by any Member State concerning activities that may constitute a violation of the Protocol or of the relevant rules of customary international law in order to ascertain thereby the facts of the matter, and promptly to report the results of any such investigation to all Member States and to the General Assembly;

"5. Requests the Secretary-General, with the co-operation of Member States, to compile, as a matter of priority, and maintain lists of qualified experts whose services could be made available at short notice to undertake such investigations, and of laboratories with the capability to undertake testing for the presence of agents the use of which is prohibited;

"6. Requests the Secretary-General, in meeting the objectives of paragraph 3 above:

"(a) To appoint, as necessary, groups of experts selected from the above-mentioned list to undertake urgent investigation of possible violations;

"(b) To make the necessary arrangements for the experts to collect and examine evidence, including on-site, with the co-operation of the countries concerned, to the extent relevant to the investigation, and for such testing as may be required;

"(c) To seek, in any such investigation, appropriate assistance and relevant information from all Governments and international organizations concerned, as well as from other appropriate sources;

"7. Further requests the Secretary-General, with the assistance of qualified consultant experts, to devise procedures for the timely and efficient investigation of information concerning activities that may constitute a violation of the Geneva Protocol or of the relevant rules of customary international law and to assemble and organize systematically documentation relating to the identification of signs and symptoms associated with the use of such agents as a means of facilitating such investigations and the medical treatment that may be required;

"8. Requests Governments, national and international organizations, as well as scientific and research institutions, to co-operate fully with the Secretary-General in this work;

"9. Requests the Secretary-General to submit a report to the General Assembly at its thirty-eighth session on the implementation of the present resolution."

2. The Secretary-General, in a note verbale dated 24 February 1983, inter alia, drew the attention of all Member States to paragraph 5 of resolution 37/98 D and stated that he would accordingly appreciate receiving as a matter of priority any names of qualified experts and of laboratories which they might be in a position to provide for the purpose referred to in the resolution. Replies to the note verbale were received from 25 Member States, and they were contained in annex I of the Secretary-General's report submitted to the General Assembly at its thirty-eighth session (A/38/435).

3. Pursuant to paragraph 7 of the same resolution, the Secretary-General appointed a group of qualified consultant experts. Owing to the complexity of the issues involved and in view of the time available, the Group of Consultant Experts was able to cover the various aspects of the subject-matter only to the extent reflected in the Group's report which was contained in annex II of the above-mentioned report of the Secretary-General.

4. Subsequently, at its thirty-eighth session, the General Assembly adopted resolution 38/187 C of 20 December 1983, the operative part of which read as follows:

"The General Assembly,

"...

"1. Takes note of the report submitted by the Secretary-General on the implementation of resolution 37/98 D; 2/

"2. Requests the Secretary-General to pursue his action to this end and, in particular, to complete during 1984, with the assistance of the Group of Consultant Experts established by him, the task entrusted to him under the terms of paragraph 7 of resolution 37/98 D and to submit his report on the work of the Group;

"3. Requests the Secretary-General to keep the General Assembly regularly informed on the implementation of resolution 37/98 D."

5. Pursuant to resolution 38/187 C, the Group addressed itself to the parts of the report it was unable to complete in 1984, in particular, the organizing and assembling systematically of the documentation referred to in paragraph 7 of resolution 37/98 D as well as, procedures related to security, logistic support and transportation. In addition, in the course of carrying out its task, the Group reviewed and modified, as necessary, its previous report in the light of developments that had taken place since the submission of its earlier report.

6. In accordance with the requests stipulated in paragraphs 2 and 3 of resolution 38/187 C, the present report is being submitted. Annex I of the report contains the replies received to the Secretary-General's note verbale dated 24 February 1983 since the submission of the previous report (A/38/435) and annex II contains the report which the Group of Consultant Experts, in their personal capacities, have submitted to the Secretary-General.

7. The Secretary-General wishes to thank the Consultant Experts for their report. It should be noted that the suggestions contained in the report of the Group of Consultant Experts are those of the experts themselves. In that connection, the Secretary-General would like to point out that, with respect to the complex and technical issues covered by the report, he is not in a position to pass judgement on all aspects of the work accomplished by the experts.

Notes

1/ Signed at Geneva on 17 June 1925 (League of Nations, Treaty Series, vol. XCIV (1929), No. 2138, p. 65).

2/ A/38/435.

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- I. Replies received from Member States
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ANNEX I

Replies received from Member States

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CANADA

[Original: English]

[2 October 1984]

1. Canada continues to support this undertaking of the General Assembly, and it was in this context that Canada submitted a document with our note on 23 August 1984 to the "Group of Consultant Experts established in pursuance of General Assembly resolution 37/98 D on provisional procedures to uphold the authority of the 1925 Geneva Protocol". This submission was preceded by a briefing to the United Nations Group of Consultant Experts.

2. It is also in the context of demonstrating continued support for this undertaking of the General Assembly that Canada wishes to add to its earlier submission of names of qualified experts whom the Canadian Government considers to be competent to conduct investigations into the alleged use of chemical weapons:

Medicine: Epidemiology - Dr. G. Humphreys
Peterborough, Ontario

Palynology: Dr. D. Jarzen
Ottawa, Ontario
(expertise in tropical flora,
especially pollen work)

3. Also included is the name of another facility in Canada which has the capability to undertake testing for the presence of agents, the use of which is prohibited:

Palynology Laboratory
Paleobiology Division,
National Museum of Natural Sciences
Ottawa, Ontario

PORTUGAL

[Original: English]

[16 November 1983]

The Permanent Representative of Portugal to the United Nations ... has the honour to inform the Secretary-General that Ms. Adriana Figueiredo and Ms. Julia da Rocha Vilar, of the Laboratory of Industrial Hygiene and Bacteriology and of the Dr. Ricardo Jorge National Health Institute respectively, are qualified experts whose services can be made available at short notice to undertake investigations on the veracity of eventual allegations of violations of the Geneva Protocol of 1925.

/...

SPAIN

[Original: Spanish]

[New York, 24 May 1984]

Further to my letter of 26 May 1983 giving you the name of the laboratory in Spain that can undertake testing for the purpose mentioned in operative paragraph 5 of resolution 37/98 D, I have the honour to transmit the following additional names of Spanish laboratories and experts to be included in the updated version of document A/38/435:

High Security Laboratory of the Majadahonda National
Centre for Microbiology, Virology and Immunology
Majadahonda, Madrid

Experts:

Dr. Emilio Bouza Santiago (Infectious Diseases)
Ramon y Cajal Special Medical Centre
Madrid

Dr. Rafael Najera Morrondo (Virology)
Majadahonda National Centre
Majadahonda, Madrid

Dr. Julio Casal Lombos (Bacteriology)
Majadahonda National Centre
Majadahonda, Madrid

Dr. Jose Blazquez Vicente (Parasitology)
Majadahonda National Centre
Majadahonda, Madrid

ANNEX II

Report of the Group of Consultant Experts established in pursuance of General Assembly resolution 37/98 D on provisional procedures to uphold the authority of the 1925 Geneva Protocol

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LETTER OF TRANSMITTAL

24 August 1984

Sir,

We have the honour to submit herewith the final report of the Group of Consultant Experts which was appointed by you in pursuance of paragraph 7 of General Assembly resolution 37/98 D of 13 December 1982.

The consultant experts appointed by you were the following:

Dr. Mats Ahlberg, Sc.D.
Head of the Analytical Chemistry Section
National Defence Research Institute
Umeå, Sweden

Dr. Philippe Bretton
Professeur agrégé des Facultés de Droit à l'Université d'Orléans
France
(until 22 August 1983)

Major-General Dr. Esmat A. Ezz, M.B., B.Ch., D.M., Ph.D.
Head of the Scientific Research Branch
Egyptian Armed Forces
Cairo, Egypt

Ambassador Charles Flowerree
Washington, D.C., United States of America

Prof. Dr. Gottfried Machata, Ph.D.
Institute of Forensic Medicine
Head of the Chemical Department
Vienna, Austria 1090, Sensengasse 2

Dr. Amada Segarra
Ministry of Foreign Relations
Quito, Ecuador

Dr. Serge Sur
Professeur agrégé des Facultés de Droit à l'Université de Paris X,
Nanterre
Co-Directeur du Centre de droit Internationale de Nanterre (CEDIN)
France
(from 22 August 1983)

His Excellency
Mr. Javier Pérez de Cuéllar
Secretary-General of the United Nations
New York

/...

With the submission of its final report, the Group of Consultant Experts is of the opinion that it has fulfilled the task entrusted to it by you in pursuance of paragraph 7 of General Assembly resolution 37/98 D of 13 December 1982 and of paragraph 2 of resolution 38/187 C of 20 December 1983.

The members of the Group of Consultant Experts wish to express their gratitude for the assistance which they received from the Secretariat of the United Nations and, in particular, to convey their thanks to the Secretary and the Assistant Secretary of the Group, as well as other officers of the Department for Disarmament Affairs who were assigned to assist the Group.

(Signed) Mats AHLBERG

Esmat A. EZZ

Charles FLOWERREE

Gottfried MACHATA

Amada SEGARRA

Serge SUR

/...

I. ORGANIZATION OF WORK AND SUMMARY OF PROCEEDINGS

1. The Group of Consultant Experts established in pursuance of General Assembly resolution 37/98 D on provisional procedures to uphold the authority of the 1925 Geneva Protocol was formed pursuant to paragraph 7 of the resolution.
2. At the outset of its sessions in 1983 the Group took note of its mandate as contained in paragraph 7 of resolution 37/98 D, which requests the Secretary-General, with the assistance of qualified consultant experts, to devise procedures for timely and efficient investigation of information concerning activities that may constitute a violation of the Geneva Protocol of 1925 or the relevant rules of customary international law and to assemble and organize systematically documentation relating to the identification of signs and symptoms associated with the use of such agents as a means of facilitating such investigations and the medical treatment that may be required. In considering its mandate, the Group was of the opinion that it would be useful to take due account also of paragraphs 4, 5, 6 and 8. Accordingly, it was felt that the procedures and related documentation referred to in paragraph 7 would be prepared with the aim of assisting the Secretary-General in fulfilling the tasks entrusted to him in the relevant paragraphs. To that end, the Group felt that it should prepare precise and definitive criteria, which would be at the disposal of the Secretary-General to guide him in carrying out his responsibility under the resolution. Owing to the complexity of the issues involved and in view of the time available, the Group was able to cover the various aspects of the subject-matter only to the extent reflected in the Group's report which was submitted to the General Assembly at its thirty-eighth session (A/38/435, annex II).
3. In the course of its work, the Group also addressed itself to the legal questions raised by the relevant paragraphs of resolution 37/98 D, and in that connection the Group took into account, *inter alia*, the discussions that had taken place on the subject at the thirty-seventh and thirty-eighth sessions of the General Assembly as well as in other forums.
4. Pursuant to General Assembly resolution 38/187 C which requested the Secretary-General, *inter alia*, to complete during 1984 the task as described in paragraph 2 above, with the assistance of the Group of Consultant Experts established by him in pursuance of resolution 37/98 D, and to submit his report on their work, the Group held two sessions, one at Geneva from 24 April to 4 May and another in New York from 13 to 24 August 1984.
5. In considering its mandate as stipulated in paragraph 2 of General Assembly resolution 38/187 C, the Group was aware of the need to complete those parts of the report which it was unable to address adequately during its sessions last year, in particular, to organize and assemble systematically the documentation referred to in paragraph 7 of resolution 37/98 D as well as procedures related to security, logistic support, transportation and laboratory analysis.
6. In the course of carrying out its task, the Group reviewed and modified, as necessary, its previous report which was of an interim nature, in the light of developments that had taken place since the submission of that earlier report. In

that connection, the Group also considered the report of the Specialists appointed by the Secretary-General to investigate allegations by the Islamic Republic of Iran concerning the use of chemical weapons (S/16433; A/39/210).

7. In the course of its work, the Group of Consultant Experts had before it the following documentation made available by the Secretariat and/or as requested by the members:

- (1) Resolution 37/98 D of 13 December 1982;
- (2) Resolution 38/187 C of 20 December 1983;
- (3) Report of the Secretary-General (A/38/435);
- (4) Letter dated 23 February 1983 from the Permanent Representative of Democratic Kampuchea to the United Nations addressed to the Secretary-General (A/38/96-S/15622);
- (5) Letter dated 21 March 1983 from the Permanent Representative of Democratic Kampuchea to the United Nations addressed to the Secretary-General (A/38/121-S/15650);
- (6) Letter dated 12 April 1983 from the Permanent Representative of Democratic Kampuchea to the United Nations addressed to the Secretary-General (A/38/156-S/15702);
- (7) Note verbale dated 29 November 1982 from the Permanent Representative of the United States of America to the United Nations addressed to the Secretary-General (A/C.1/37/10);
- (8) Letter dated 14 December 1982 from the Permanent Representative of the Union of Soviet Socialist Republics to the United Nations addressed to the Secretary-General (A/37/765);
- (9) Letter dated 4 February 1983 from the Permanent Representative of the Union of Soviet Socialist Republics to the United Nations addressed to the Secretary-General (A/38/86);
- (10) Letter dated 18 March 1983 from the Permanent Representative of Canada to the United Nations addressed to the Secretary-General (A/38/120);
- (11) Letter dated 30 March 1983 from the Charge d'Affaires a.i. of the Permanent Mission of the Union of Soviet Socialist Republics to the United Nations addressed to the Secretary-General (A/38/131);
- (12) Letter dated 18 April 1983 from the Permanent Representative of Viet Nam to the United Nations addressed to the Secretary-General (A/38/161 and Corr.1);
- (13) Letter dated 18 April 1983 from the Permanent Representative of Viet Nam to the United Nations addressed to the Secretary-General (A/38/162);

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- (14) Letter dated 27 April 1983 from the Permanent Representative of the United States of America to the United Nations addressed to the Secretary-General (A/38/184);
- (15) Note verbale dated 13 June 1983 from the Permanent Representative of the Federal Republic of Germany to the United Nations addressed to the Secretary-General (A/38/285);
- (16) Letter dated 24 June 1983 from the Chargé d'Affaires a.i. of the Permanent Mission of the United Kingdom of Great Britain and Northern Ireland to the United Nations addressed to the Secretary-General (A/38/285);
- (17) Note verbale dated 4 August 1983 from the Acting Permanent Representative of the United States of America to the United Nations addressed to the Secretary-General (A/38/326);
- (18) Letter dated 18 August 1983 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/15934);
- (19) Letter dated 26 August 1983 from the Permanent Representative of France to the United Nations addressed to the Secretary-General (A/38/370);
- (20) Letter dated 10 October 1983 from the Permanent Representative of Democratic Kampuchea to the United Nations addressed to the Secretary-General (A/C.1/38/3);
- (21) Letter dated 3 November 1983 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16128);
- (22) Letter dated 9 November 1983 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16139);
- (23) Letter dated 10 November 1983 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16140);
- (24) Letter dated 16 November 1983 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16154);
- (25) Letter dated 29 November 1983 from the Permanent Representative of Iraq to the United Nations addressed to the Secretary-General (A/38/650-S/16193);
- (26) Letter dated 15 December 1983 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16220);

- (27) Letter dated 27 December 1983 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16235);
- (28) Letter dated 25 January 1984 from the Permanent Representative of Democratic Kampuchea to the United Nations addressed to the Secretary-General (A/39/89-S/16297);
- (29) Letter dated 27 January 1984 from the Permanent Representative of Democratic Kampuchea to the United Nations addressed to the Secretary-General (A/39/92-S/16301);
- (30) Letter dated 9 February 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16331);
- (31) Letter dated 14 February 1984 from the Permanent Representative of Democratic Kampuchea to the United Nations addressed to the Secretary-General (A/39/111-S/16333);
- (32) Letter dated 14 February 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16340);
- (33) Letter dated 16 February 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16346);
- (34) Letter dated 17 February 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16352);
- (35) Note verbale dated 21 February 1984 from the Permanent Representative of the United States of America to the United Nations addressed to the Secretary-General (A/39/113);
- (36) Letter dated 29 February 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16378);
- (37) Letter dated 29 February 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16380);
- (38) Letter dated 2 March 1984 from the Permanent Representative of Democratic Kampuchea to the United Nations addressed to the Secretary-General (A/39/121-S/16383);
- (39) Letter dated 2 March 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16384);

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- (40) Letter dated 5 March 1984 from the Permanent Representative of Democratic Kampuchea to the United Nations addressed to the Secretary-General (A/39/124-S/16393);
- (41) Letter dated 8 March 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16397);
- (42) Letter dated 8 March 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (A/39/127);
- (43) Letter dated 9 March 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16408);
- (44) Letter dated 12 March 1984 from the Permanent Representative of Iraq to the United Nations addressed to the Secretary-General (S/16346);
- (45) Letter dated 13 March 1984 from the Chargé d'Affaires a.i. of the Permanent Mission of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (A/39/132-S/16416);
- (46) Report of the Specialists appointed by the Secretary-General to investigate allegations by the Islamic Republic of Iran concerning the use of chemical weapons: note by the Secretary-General (dated 26 March 1984) (S/16433);
- (47) Letter dated 27 March 1984 from the Permanent Representative of Iraq to the United Nations addressed to the Secretary-General (S/16438);
- (48) Letter dated 27 March 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16446);
- (49) Letter dated 27 March 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16447);
- (50) Note by the President of the Security Council dated 30 March 1984 (S/16454);
- (51) Letter dated 5 April 1984 from the Permanent Representative of Democratic Kampuchea to the United Nations addressed to the Secretary-General (A/39/172-S/16469);
- (52) Letter dated 27 March 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (A/39/182-S/16481);

- ocrat (53) Letter dated 17 April 1984 from the Permanent Representative of Democratic Kampuchea to the United Nations addressed to the Secretary-General (A/39/185-S/16486);
- (54) Letter dated 18 April 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16498);
- (55) Chemical and bacteriological (biological) weapons: note by the Secretary-General (A/39/210 dated 27 April 1984);
- (56) Letter dated 26 April 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (A/39/215-S/16508);
- raq t (57) Letter dated 10 May 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (A/39/266-S/16572);
- ation (58) Letter dated 14 May 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16567);
- g the (59) Letter dated 11 June 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16616);
- iraq t (60) Letter dated 15 June 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (S/16630);
- the (61) Letter dated 28 June 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (A/39/333-S/16652);
- the (62) Text of messages dated 29 June 1984 from the Secretary-General addressed to the President of the Islamic Republic of Iran and to the President of the Republic of Iraq (S/16663);
- 4 (63) Note by the Secretary-General (S/16664);
- democr (64) Letter dated 3 August 1984 from the Permanent Representative of the Islamic Republic of Iran to the United Nations addressed to the Secretary-General (A/39/374-S/16690);
- al (65) Letter dated 30 January 1984 from the Permanent Representative of the Islamic Republic of Iran addressed to the President of the Conference on Disarmament transmitting a report containing a description of an attack with chemical weapons in Piranshahr, Iran (CD/432);
- the

- (66) Letter dated 2 March 1984 from the Permanent Representative of the Islamic Republic of Iran addressed to the President of the Conference on Disarmament containing information on missile attacks and bombardments in both military and civilian areas of the Islamic Republic of Iran (CD/447);
 - (67) Letter dated 20 March 1984 from the Permanent Representative of the Islamic Republic of Iran addressed to the President of the Conference on Disarmament containing proposals on some elements of a future convention on the complete prohibition and total destruction of chemical weapons (CD/483) (CD/CW/WP.74);
 - (68) Reports of the Secretary-General (A/36/613 and A/37/259);
 - (69) Status of multilateral arms regulation and disarmament agreements (Special supplement to the United Nations Disarmament Yearbook, vol. II (1977));
 - (70) Status of multilateral disarmament agreements: report of the Secretary-General (A/37/560 of 4 November 1982 and A/38/524 of 25 October 1983);
 - (71) Chemical and bacteriological (biological) weapons and the effects of their possible use (A/7575/Rev.1-S/9292/Rev.1);
 - (72) Health aspects of chemical and biological weapons (report of a World Health Organization group of consultants), 1970;
 - (73) Relevant provisional records of the thirty-seventh and thirty-eighth sessions of the Plenary and First Committee and relevant PVS and documents of the Committee on Disarmament/now Conference on Disarmament.
8. A memorandum dated 4 August 1982 submitted by the Government of Belgium (CD/301-CD/CW/WP.39) was issued as a reference document for the Group's work, as requested in a letter dated 22 July 1983 from the Permanent Representative of Belgium.
9. A document (conference room paper 1) entitled "Observations of a Canadian Ad Hoc Group of Scientists on the World Health Organization 1970 report entitled "Health Aspects of Chemical and Biological Weapons" was transmitted under cover of a note verbale dated 23 August 1984 by the Permanent Mission of Canada to the United Nations.
10. In addition, the Group was cognizant of the note verbale of the Secretary-General to all Member States, dated 24 February 1983, requesting the names of qualified experts and of laboratories, as well as the replies received.
11. In the course of the Group's work Major-General Dr. Esmat Ezz co-ordinated its deliberations and chaired its meetings.
12. The Group of Consultant Experts considers that, with the submission of its final report, it has completed the task entrusted to it in such a manner as to

permit the implementation of the procedures referred to in paragraph 7 of resolution 37/98 D and to ensure their continuing effectiveness.

II. PROCEDURES DEVISED BY THE GROUP OF CONSULTANT EXPERTS

A. Criteria to guide the Secretary-General in deciding whether or not to initiate an investigation

13. The first problem to confront the Secretary-General when there is an allegation of the use of chemical or biological weapons is to decide whether an investigation is warranted. The issue is not whether the allegations are true but whether they describe a situation or incident that might be a violation of the Geneva Protocol or of the relevant rules of customary international law. Upon receipt of a complaint, the Secretary-General in making this determination will be guided by the following criteria:

(a) Has the Member State which is reporting information concerning activities that may constitute a violation of the Geneva Protocol or the relevant rules of customary international law, requested an investigation?

(b) Does the report allege either: (i) that chemical or biological warfare agents have been used, or (ii) that there has been an incident or incidents involving the use of a material or substance that can be construed as being a chemical or biological agent?

(c) Did the report allege that the use had occurred in the course of armed conflict or that the agent was used in a deliberately hostile manner?

(d) Does the report contain sufficient information and was it submitted promptly enough to provide the basis for initiating an investigation?

14. In connection with the criteria set forth in paragraph 13 (d) the following considerations would apply:

(a) The event that provides the basis for the allegation should be reported immediately after it comes to the attention of the Member State making the complaint. The information should be recent enough so that there is a good possibility that evidence of value to an investigation remains (for a discussion of some of the scientific factors bearing on the time element, see appendix I). In some instances, if the complaining State alleges that older evidence is still of value, the Secretary-General may need to seek expert advice.

(b) Information contained in the allegation should include:

(i) A description of the event involving the alleged use, giving as many details as possible, such as the means of delivery, duration of the attack, effects on humans, animals and plants, biomedical samples and any physical evidence that may remain, such as remnants of munitions, contaminated clothes, water, soil and vegetation;

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- (ii) The exact time of the alleged use - date and hour or general time of day (dawn, mid-day, afternoon, sunset, night);
- (iii) The location of the alleged use - place, name or geographic co-ordinates or distance and direction from a known place.

15. If the information contained in the initial complaint meets the criteria listed above, then an investigation would be warranted. In that case, the investigation should be initiated as rapidly as possible, ideally within 24 hours. However, if the answers to one or more of the questions listed above were found to be ambiguous, the Secretary-General would then promptly proceed to seek clarification from the State making the complaint and may also seek the advice of an expert consultant (see para. 93) to evaluate information before a decision is taken.

16. Because of political, logistic or security considerations it may not be possible to send a team of experts to the site of the alleged incident or to a neighbouring country at once, although this should normally be the objective. In such a case, and if the criteria referred to above have been met, the team of experts should be assembled with the initial tasks of evaluating information received and assisting the Secretary-General in seeking whatever additional information might be obtained from other sources, including from the State alleged to have used chemical or biological warfare agents. In the meantime, necessary preparations for an on-site investigation should be made against the possibility that such an investigation might become feasible.

B. Follow-up actions related to the initiation of an investigation

Questions related to the initiation of an investigation

17. Situations that may arise in connection with a decision to undertake an investigation include the following alternatives:

(a) Situation I

18. Country where the incident reportedly occurred has agreed to accept a team of experts on its territory; information provided to the Secretary-General is sufficient to permit initiation of investigation. Actions that would be required:

- (i) Selecting an appropriate team of experts from the list maintained by the Secretary-General, taking into account the requirement for technical expertise arising from the incident to be investigated and bearing in mind political factors that could affect the make-up of the group in regard to the nationality of its members. An expert consultant may be called on to give advice on the composition of the team. It is anticipated that the Secretary-General will be able to communicate directly with the experts on the list he maintains, but at the same time the Government of the country of which the expert is a citizen will be notified through the respective permanent mission to the United Nations.

The nominated experts should be provided available information about the assignment, necessary details of travel arrangements and a meeting point. The experts should also be consulted about the technical equipment required for carrying out the investigation.

- (ii) Contacting the host country and any other country through which the team may have to transit in order to make arrangements for receiving the team, assuring its security and providing logistic support.
- (iii) With the advice of the expert consultant, alerting, as necessary, appropriate laboratories from the list maintained by the Secretary-General.
- (iv) Making the necessary administrative arrangements for the team to travel to the area.
- (v) Assigning the needed Secretariat staff to accompany the team.

(b) Situation II

19. Access to the territory of the country where the incident reportedly occurred is not possible either because the Government of that country will not permit it, or because the security of the team and/or the necessary logistic support cannot be assured, or if any other obstacles to the investigation should arise. Actions that would be required:

- (i) Selecting a neighbouring country or countries where evidence may be available and which would permit access to the team for the purpose of the investigation and where a team might be able to visit the border area for interviews with refugees and/or other persons crossing the border and possible sample collection.
- (ii) Discussing at the earliest possible opportunity, with the Government or Governments concerned whether timely access would be given to the team for the purpose of the investigation.

20. Once the agreement of one or more neighbouring countries to accept a team has been obtained, the same procedures as in situation I should be followed.

(c) Situation III

21. Even though the complaint meets the criteria for initiating an investigation, no possibility exists for visiting either the country where the incident reportedly occurred or a neighbouring country.

22. Such a situation could arise under a variety of circumstances. A likely possibility could be that the State on whose territory the use of chemical or biological weapons occurred would not be in a position to assure the safety and logistic support for the team of experts and, at the same time, the neighbouring countries because of their concern about security in their borders, would not

authorize the visit of the team. In this case the Secretary-General would have access only to such documentary information as may have been provided by the State making the complaint and by other Member States, and possibly evidence provided by other sources.

23. Under these circumstances the Secretary-General, would select an appropriate team of experts as in situation I and with their assistance evaluate such evidence as may be available while, at the same time, continue to seek opportunities for conducting an on-site investigation in the region where the alleged attack occurred. He will report to the Member States and to the General Assembly when the analysis of the available information has been completed. He will also continue to keep himself informed on developments in the area of concern and should take advantage of any opportunity that may subsequently arise to conduct an on-site investigation if such an investigation holds th prospect of producing additional useful information.

C. Specific guidance for the conduct of an investigation

1. Guidance for the Secretariat for the grouping of qualified experts

24. After a country nominates its experts, the Secretariat will study the qualifications, experience and field of expertise of each nominee (in this regard, see also appendix II). The experts will then be grouped according to their field of expertise. Within each group, they will be grouped according to degree of experience, together with a notation of the following information:

- (a) Geographical location;
- (b) Language proficiency;
- (c) Experience in field work;
- (d) Availability of the experts' services on short notice, and whether they could be released from their duties for extended periods of time;
- (e) Possibility of bringing their own equipment needed for the investigation.

25. The Secretariat should periodically update the above information as necessary (see sect. IV).

2. Guidance for the Secretariat for the classification of laboratories

26. After a country designates a laboratory or laboratories to be available for the analysis of samples that may be collected in the course of any investigation, the Secretariat will study the information accompanying the designation of each laboratory (in this regard, see also appendix III). The laboratories will then be

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grouped according to the type of analyses they can conduct, together with a notation of the following information:

- (a) Geographical location;
- (b) Experience in analyses of samples collected from field work;
- (c) Whether there are specific requirements with respect to the preparation of samples;
- (d) Whether local authorities have given consent for import and export of samples without inspection;
- (e) Whether there are any fees involved for services.

27. The Secretariat should periodically update the above information as necessary (see sect. IV).

3. Illustrative list of types of equipment needed for initial stockpiling by the Secretariat

28. Certain basic equipment needed for carrying out an on-site inspection should be stockpiled by the Secretariat so that it could be available to the team once a decision to conduct an investigation is taken and could be classified under the following categories: protective equipment; field detection equipment; sampling and packing equipment; and medical supplies.

29. Experience has shown that feeling confident with one's personal equipment ensures the best results. Therefore experts should use their own equipment to the extent possible. The Secretariat should consult with the individual experts regarding their specific requirements.

30. In some investigations certain items will not be required; in others it might be necessary to provide special additional equipment. Appendix IV contains an illustrative list of items that might be required for an investigation.

4. Procedure and criteria for selection of members of the team of experts

31. The functions of the members of the team of experts are twofold: fact-finding and evaluation. The members of the team would be selected by the Secretariat from the list maintained by the Secretary-General with the advice of an expert consultant. The selection should be guided by the information concerning the alleged attack submitted to the Secretary-General and by the type of investigation that is most likely to be undertaken (on site, near site or others) bearing in mind that the situation may change as the investigation proceeds.

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32. An investigation may involve: collection of relevant physical and biomedical samples, examination of casualties human/animal and interviews with alleged victims and eyewitnesses. It would be desirable that members of the team have training and/or experience in field work. The team of experts will choose the laboratories to perform the analyses depending on the type of samples obtained and the type of analysis required. Among the specialties enumerated in appendix II, the following are the types of expertise that may be most frequently required:

- (a) Military expert with knowledge in chemical and/or biological defence;
- (b) Chemist with knowledge in chemical defence;
- (c) Microbiologist with knowledge in biological defence;
- (d) Physician: internist, toxicologist or epidemiologist, with knowledge of the medical effects of chemical or biological warfare agents;
- (e) Forensic pathologist;
- (f) Veterinarian with knowledge of the effects of chemical or biological agents on animals;
- (g) Psychologist, specialized in interviewing witnesses;
- (h) Sociologist, ethnologist or cultural anthropologist with general knowledge of the area where the alleged attack occurred.

33. A core team of experts would consist of three members: one of them would be a military expert, a chemist or a microbiologist; another would be a physician, a forensic pathologist or a veterinarian; and the third would be a psychologist, a sociologist, an ethnologist or a cultural anthropologist. This core team may be augmented as required.

34. Any team should be accompanied by the required Secretariat staff, including substantive and administrative staff, security personnel, interpreters, etc.

5. Requirements for security arrangements and logistic support

35. Security arrangements for the team of experts and for their equipment and the samples collected by them would be agreed in an exchange of letters between the United Nations and the States on whose territory the investigation is to be carried out. The same procedure would be followed for the logistic support to be provided to the team of experts by those States for the purpose of the investigation. Model clauses for such an agreement are contained in appendix V, section A.

6. Procedures for an on-site or near-site investigation

(a) Evaluation of the complaint

36. During their first meetings, the team of experts should study the complaint as put forward by the country concerned as well as any additional information that may be available. The details of the complaint would help the team in the proper planning of the on-site investigation, in particular with respect to the places to be inspected, the casualties to be examined and the eyewitnesses to be interviewed. Furthermore, this would help the team in setting its course of action, giving priority to those actions where the time element is an important factor in the accessibility to various types of evidence. The team would also decide its requirements regarding logistic support and security arrangements, any assistance from the local authorities or representatives of international organizations in the host country and interpretation services.

(b) Meeting with local authorities

37. Once the team enters the country on whose territory the investigation will be carried out, it should hold a meeting with the local authorities to discuss the following:

- (i) Any information the local authorities may have regarding the alleged attack;
- (ii) Its programme, particularly the places to be inspected, casualties to be examined, and interviews with eyewitnesses, medical personnel, social workers and other officials who may have relevant information;
- (iii) The application of arrangements for logistic support and security for the team.

(c) Examination of the site of the alleged attack

38. If the team has access to the area where the alleged attack has occurred, the first step should be the examination of the site(s) involved in an attempt to collect as many facts as possible. In this respect, the team should: perform quick field analysis, collect items directly related to the alleged attack with chemical or biological warfare agents (remnants of munitions, etc.), look for effects of such agents on the terrain, vegetation and animal life and collect relevant environmental and biomedical samples (see sect. II C, subsect. 7, standards concerning the collection and handling of samples).

(d) Interviews with the alleged victims

39. Interviews with the alleged victims are very important sources of information. Every possible effort should be made to collect as many facts as possible with respect to the details of the attack(s) and how the alleged victims were affected. The illustrative questionnaire appearing in appendix VI is designed to serve as a guide and should help to assess the credibility of those interviewed.

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(e) Examination of alleged victims and their medical records

40. The team should examine the alleged victims and look for signs and symptoms that could be pathognomonic of exposure to specific chemical or biological agents. The team should look into the medical records of the alleged victims and interview the medical staff who attended them to establish the following:

- (i) Signs and symptoms on admission;
- (ii) Evolution of the disease;
- (iii) Laboratory investigations carried out;
- (iv) Treatment given.

41. The team should conduct preliminary laboratory analysis in the field if the required facilities are available. For more sophisticated and precise analysis, it would also collect biomedical samples to be shipped to designated laboratories.

42. The team would conduct post-mortem examinations on bodies of victims who died as a result of an alleged attack and collect post-mortem samples for further examination. The team might also have access to post-mortem samples collected by the local medical staff.

(f) Interviews with eyewitnesses to the alleged attack

43. The team would interview any eyewitnesses about the details of the alleged attack. The same information would be requested of them as of the alleged victims (see appendix VI).

(g) Interviews with local authorities

44. The team should interview local authorities such as military personnel, civil defence staff and social workers who participated in relief activities following the alleged attack.

7. Standards concerning the collection and handling of samples

45. Samples collected by the team of experts carrying out an on-site investigation of an alleged use of chemical or biological warfare agents, if found after laboratory analysis to contain such agents, would constitute important evidence of such an attack. The samples may include all types, for example, bulk agents, remnants of munition, environmental samples (soil, vegetation, water, etc.) and biomedical samples from human and/or animal (blood, urine, excreta, tissues, etc.).

46. These same types of samples, when collected by persons other than members of the team from the site of an alleged chemical or biological attack, may also constitute evidence and should therefore be received by the team, which should

endeavour to obtain all possible information about their origin and subsequent handling.

(a) Sample collection for chemical warfare agents

47. Whenever possible, the quantity or size of samples should be sufficient to allow division into a minimum of three parts suitable for independent analyses by three different laboratories.

48. When environmental and biomedical samples are collected, control samples should also be collected from an uncontaminated area located at a suitable distance from the site of the alleged attack or from unexposed human and/or animal. The quantity of control samples should be sufficient to prepare blanks and spiked samples, that is, a minimum of six parts.

49. Each sample should be labelled with an identification number from a coding system devised by the team of experts. For each sample a record has to be made, giving the details concerning the physical description, date and place of sampling and other relevant data. For samples obtained from the site of an alleged attack, the weather conditions and information on any decontamination activities that may have been carried out between the time of the alleged attack and the time of sampling should be recorded. For biomedical samples from an alleged victim, the team would examine the available medical record and note the relevant information, including any treatment given, type of exposure (inhalation, skin, ingestion, etc.) and whether the victim used any protective means.

(b) Sample handling for chemical warfare agents

50. Samples must be packed and hermetically sealed in a manner to ensure their safety and the safety of handlers and to guard against pollution of the surrounding environment. After proper packing, each sample should be sealed to guard against any tampering during transport (see appendix VII).

(c) Sample collection and handling for biological warfare agents

51. Collection and handling of samples concerning the alleged use of biological warfare agents are performed in the same manner as for chemical warfare agents. However, sterile containers (bags or glass) have to be used and the collection, handling and packaging procedures have to be performed under completely sterile conditions. This would apply to both samples and control samples. The samples should be kept refrigerated or frozen as appropriate, whenever possible.

8. Methods for preservation of samples

52. The lower the temperature, the longer chemical and biological warfare agents usually persist. Therefore samples alleged to be contaminated with such agents should be stored in as cool conditions as possible if they cannot be packed and shipped immediately after collection, preferably refrigerated or frozen as appropriate. Biomedical samples that are to be subjected to morphological and

histological examination should be preserved in ethanol or formaldehyde. On the other hand, if they are to be analysed for the presence of chemical or biological warfare agents or their degradation products they should be preserved in as cool a condition as possible.

53. Once packed, double-sealed in glass container and/or plastic bags (e.g., Mylar), and surrounded by an absorbing material (e.g., vermiculite) in a sealed container the samples can be handled safely. If the packed and sealed samples cannot be transported immediately to a laboratory for preparation or analysis, they should be kept refrigerated or frozen, as appropriate.

9. Choice of laboratories and procedures for the preparation, transmission and analysis of samples

54. Once the team of experts has collected the samples, and on the basis of preliminary analyses, decided on the types of laboratory analyses needed, it would proceed to advise the Secretariat on the choice of the laboratories that can conduct the required analyses from the list maintained by the Secretary-General.

55. A laboratory with the necessary expertise will be selected to divide the original sample into three parts and whenever needed prepare the spiked control samples. For each particular analysis, three different laboratories will be chosen to conduct independent analyses.

56. After proper labelling, packing and sealing, the samples as well as the control samples should be dispatched as soon as possible to the laboratory designated to conduct the division of samples and spiking of control samples, which would be alerted in advance about the time of arrival of the samples. It is preferable that a member of the Secretariat and a member of the team of experts take charge of the samples during transport to guard against any mishandling or loss.

57. According to prior arrangement with the Government concerned, the sample will pass the customs without inspection and be delivered to the laboratory concerned. The legal aspects relating to the analyses of samples in the laboratories concerned would be agreed in an exchange of letters between the United Nations and the States involved. Model clauses for such an agreement are contained in appendix V, section C.

58. At the laboratory, in the presence of the member of the Secretariat and of the team, and of the persons who will conduct the division of samples, the box containing the samples will be opened after confirming that the seals are intact. The laboratory would then give a receipt to the member of the Secretariat indicating the number and nature of samples delivered.

59. Each sample, according to its nature, should be subject to gross examination, non-destructive microscopic examination as well as scanning electron microscopy, if necessary. The features of the samples that might help in the final analyses should be documented by photographs.

50. The samples should be divided into three equal parts and each part should be assigned a code number.
61. The control samples should be divided into six equal parts. Three control samples should be spiked with one or more of chemical or biological warfare agents for the purpose of verifying the accuracy of the subsequent analyses. Each of the spiked control samples as well as the non-spiked control samples should be assigned a code number. The codes given to the samples should be kept in a sealed envelope.
62. The samples and control samples should then be grouped into three sets, each set containing an original sample, a spiked control sample and a non-spiked control sample. Samples and control samples should be similar in appearance.
63. The member of the Secretariat or of the team should assign a new code number to each sample after registering the code number given by the laboratory. The code numbers should also be kept in a sealed envelope. This method of double coding would guarantee that at no time the laboratory conducting the division, the laboratory conducting the analysis, the member of the Secretariat or of the team would be in a position to identify the samples. The record of coding and recoding would not be divulged until the analyses have been completed.
64. The sets of samples would then be properly repacked and sealed. Each set would be delivered by a member of the Secretariat and of the team to the selected laboratory with a summary of their nature, the method of sampling and the requested typed of analyses. The director of the laboratory, in the presence of the member of the Secretariat and of the team, will confirm that the seals are intact and open the box and give a receipt to the member of the Secretariat.
65. The laboratories should be requested to carry out the analyses according to generally accepted methods. However, if the laboratory uses a special or unpublished method, the results of the analyses should be accompanied by the technical details of the method used.
66. If a pathological examination is required, the laboratory dividing the samples would only prepare three sets of samples to be sent to the different laboratories. It is obvious that normally no control samples can be prepared.
67. The laboratories should send the results of the analyses to the Secretariat. When all the results have been received, the Secretariat and the laboratory that conducted the division of samples would divulge the code to the team of experts. The team then would study the results and consider it in the final evaluation of the data collected.
10. Procedure to be followed for the transportation of samples, taking into account the legal aspects involved
68. Modalities for the transportation of samples as well as equipment necessary for the investigation would be agreed in an exchange of letters between the United

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Nations and the States involved - State of origin, State of transit and State of destination. Model clauses for such an agreement are contained in appendix V, section B.

11. Report of the team of experts

69. The report prepared by the team of experts for submission to the Secretary-General, upon the conclusion of their investigation and evaluation, should take into consideration the results of such analysis as the team may deem necessary. This report should include the following:

(a) Information on the composition of the team at various stages in the investigation, including during the preparation of the report.

(b) A compilation of the information gathered during the investigation: on-site inspection and collection of evidence at the location of the alleged attack; examination of human corpses or casualties; examination of dead or affected animals; analyses of the different types of samples; interviews with eyewitnesses and other witnesses; documentary evidence; etc.

(c) A description of the investigation process, tracing the various stages of the investigation with special reference to the places and time of sampling and analyses and the places and dates of deliberations on the report as well as the date of its adoption. Supporting evidence, such as records of interviews, the results of medical examinations and/or scientific analyses and documents examined by the team, should be included.

(d) Conclusions proposed jointly by the team of experts, indicating the extent to which the alleged events have been substantiated and possibly assessing the probability of their having taken place. This assessment would take into account the following elements concerning the evidence gathered:

(i) Origin: directly gathered by members of the team from the site of an alleged attack and/or from casualties or corpses, obtained from eyewitnesses, other sources such as medical or military sources, documentary evidence, etc.

(ii) Nature: on-site investigation or other investigation, medical examinations, scientific analysis of samples, interviews of casualties and/or eyewitnesses to the alleged attack or other witnesses, documentary evidence, etc.

(iii) Contents: quantity, scientific character, degree of accuracy, etc.

(iv) Consistency: consistency among different types of evidence.

(e) Individual opinions by a member or members of the team of experts dissenting from the majority or differing on any of the points listed above would also be recorded in the report.

D. Specific tasks relating to the organization and
conduct of an investigation

70. To enable the Secretary-General to act as promptly as possible and to implement the procedures for the timely and efficient investigation of information concerning activities that may constitute a violation of the 1925 Geneva Protocol or the relevant rules of customary international law, the Secretariat should be in a position to carry out the necessary functions and responsibilities. These functions cover three major phases:

- (a) Phase I - starts immediately upon implementation of these procedures;
- (b) Phase II - the evaluation of complaints;
- (c) Phase III - actual investigation.
- (a) Phase I

71. This preparatory phase is most important as the success and promptness of any investigation, especially an on-site investigation, would depend on the arrangements and preparations carried out during this phase.

72. The main tasks to be carried out in the preparatory phase are the following:

- (i) To maintain lists of qualified experts nominated by Member States and, with the advice of the expert consultant, group them according to their expertise and experience, using as guidance appendix II;
- (ii) To maintain lists of laboratories designed by Member States and, with the advice of the expert consultant, group them according to their specialty, using as guidance appendix III;
- (iii) To establish the means to ensure that, as required, experts and laboratories are alerted as expeditiously as possible;
- (iv) To make arrangements as necessary with the Governments that have submitted names of experts and laboratories to permit the Secretary-General to contact experts and laboratories directly so that their services may be made available on short notice;
- (v) To convey to the laboratories the procedures that have been worked out concerning the preparation of samples, packaging, etc. and also ascertain if any laboratories have special requirements that may have to be taken into account. In addition, inquiries should be made concerning any fees that may be involved;
- (vi) To stockpile equipment needed for an investigation, after consultation with experts on the list maintained by the Secretary-General, and also the necessary protective equipment, medical supplies and documentation (see appendices IV, VIII and X, respectively);

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- (vii) To seek permission from the Governments that designated laboratories to exempt from any inspection samples entering or leaving their territories.

(b) Phase II

73. This phase begins once a complaint is received by the Secretary-General. The Secretary-General would with expert advice, as needed, evaluate the complaint and determine whether it meets the established criteria for the initiation of an investigation, or if further information is needed in order to enable him to take a final decision.

(c) Phase III

74. Once a decision is taken to conduct an investigation, the Secretary-General would promptly initiate the activities associated with the investigation, namely:

- (i) Determine with expert advice and for appointment by him, the suitable composition of the team needed to conduct the required investigation;
- (ii) Notify the Government concerned that the services of their respective experts are being called upon;
- (iii) Transmit, as soon as possible, to the experts appointed, the relevant information concerning the investigation, including the nature of the complaint, travel arrangements and a meeting point for all the members of the team.

75. If the investigation is to be conducted on site (situation I), the Secretary-General would inform the country on whose territory the alleged use of chemical or biological weapons was said to have occurred of the expected date of arrival of the team and also request the following:

- (i) Logistic support and security arrangements for the team (see para. 35);
- (ii) Preservation of any physical samples such as:
 - (a) Samples of the substance(s) used;
 - (b) Remnants of munitions used;
 - (c) Contaminated soil, vegetation, water;
 - (d) Contaminated clothes or other articles;
- (iii) Preservation of biomedical samples obtained from casualties, such as blood, urine, vomitus and stools as well as post-mortem samples;
- (iv) Locating casualties and where they are hospitalized, so that the investigating team may examine them and their medical records, and also arranging for meetings with medical personnel who attended them;

(v) Locating eyewitnesses of the attack.

76. As necessary, the Secretary-General would seek permission for the team to cross certain countries in order to have access to the site of investigation.

77. The Secretary-General would seek in advance clearance from the Governments concerned for admission of certain necessary materials for the investigation, as well as exemption from any inspection of the samples that need to be transported out of the country (see paras. 35 and 57).

78. With the advice of the experts, the Secretary-General would choose the laboratories to be alerted as soon as possible after obtaining any samples and the Secretary-General notify the Governments concerned, and make the necessary arrangements for transportation of samples (see para. 68).

79. The Secretariat would make the necessary administrative arrangements with existing United Nations offices in countries to be crossed or visited by the team.

80. If an on-site investigation is impossible (situation II), the Secretary-General with expert advice, would contact a neighbouring country or countries where evidence may be available through access to refugees and other persons crossing the border, and seek permission to conduct a timely investigation in this country. Once this permission is obtained the Secretary-General would seek agreement on the modalities of the investigation as in situation I and the Secretariat would promptly request from the host country the following:

- (i) Names of the casualties and where they are hospitalized so that the investigative team may examine them and their medical records and also make arrangements for meetings with medical personnel who attended them;
- (ii) Names and location of alleged eyewitnesses of the attack and whether they could be made available for interview by the team;
- (iii) Location of any area that could be polluted due to drift of wind or water drainage and whether the team could have access to such areas.

81. If there is no possibility of visiting either the country where the attack occurred or a neighbouring country (situation III), then the Secretary-General would put at the disposal of the team of experts, for their evaluation, the relevant evidence available to him. At the same time, the Secretariat would continue to follow developments in the area concerned, and should be prepared to take advantage of any opportunity that may subsequently arise to conduct an on-site investigation, if in the opinion of the experts such an investigation holds the prospect of producing additional useful information.

III. ASSEMBLING AND SYSTEMATIC ORGANIZATION OF DOCUMENTS

82. In approaching the task assigned in paragraph 7 of General Assembly resolution 37/98 D of assembling and organizing systematically documentation relating to the

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identification of signs and symptoms associated with the use of chemical and biological warfare agents which is forbidden by the Geneva Protocol of 1925 and the relevant rules of customary international law, the Group of Experts considered what documentation would be most useful to a team of experts established in the future to investigate possible violations of the Protocol or those rules.

83. The needs of such a team were identified as falling into two basic categories, (a) general information of the sort that would be useful to investigators in the field and (b) information of a more specific and detailed nature that might be needed in making an analysis of evidence after the field work has been completed. The Group considered that such documents as the 1970 report of a World Health Organization group of consultants entitled "Health Aspects of Chemical and Biological Weapons", report of the Secretary-General on chemical and bacteriological (biological) weapons and the effects of their possible use (A/7575/Rev.1-S/9292/Rev.1) and the field manuals prepared by or for the armed forces of individual Member States would fall into the first category while more detailed studies on specific problems, prepared by various scientific institutions, would be relevant to the second category.

84. In regard to the 1970 WHO report, an Ad Hoc group of Canadian scientists established to review that report found it to be still largely valid, although they had minor modifications and updating to suggest. The group of consultant experts met with representatives of the Ad Hoc group of Canadian scientists at the request of the Permanent Mission of Canada to the United Nations.

85. It was recognized that the Group of Experts as now constituted had neither the expertise nor the time to develop a standard handbook on signs, symptoms and medical treatment for biological and chemical warfare agents. Rather, in view of the continuous accumulation of knowledge in this field, the Group considered it advisable to develop a guide to the available documentation which could be regularly updated for the benefit of any future investigative team (see sect. IV).

86. The first step was to discover what documentation was available by making inquiries to likely sources. In regard to national publications, representatives of several States were queried informally by members of the Group to see if their countries had produced relevant publications which could be made available to the Group. In this regard the Group would hope that all States that have already produced field manuals or similar publications, or may do so in the future, would make them available to the Secretary-General.

87. As to the scientific literature which treats specific agents in depth, several different sources were approached, including the World Health Organization (WHO), the United Nations Institute for Disarmament Research (UNIDIR), and the International Register of Potentially Toxic Chemicals (IRPTC). WHO and IRPTC were asked whether any existing publications could be made available to the Group and whether they had the capacity to institute a computer search for literature on the signs, symptoms and medical treatment for specific chemicals, toxins and potential biological warfare agents. The Group also made a computer search of its own with the help of the Secretariat.

88. Taking into account the vast amount of data available, only a part of which would be relevant to the work of any future investigative team, the Group adopted the following approach to the problem:

(a) Copies of handbooks and other ready reference documents were obtained and were reviewed to determine whether they would be useful for the Secretariat to acquire them. The documents listed in appendix VIII should be kept on hand by the Secretariat for the use of any future investigative team as recommended in paragraph 72 (vi);

(b) Information was obtained through computer searches listing pertinent scientific documentation concerning the signs and symptoms associated with the use of certain chemical and biological warfare agents and the indicated medical treatment. The searches were performed on the basis of a list of agents which the Group regarded as most significant for the task before it (see appendix IX). Since time was limited, priorities for searching were established among the classes of agents. Nerve gases and mustards were assigned the highest priority. Account was taken of the existing compilations such as the 1970 WHO report in order to reduce the amount of material to be searched;

(c) The results of these searches were screened and those documents appearing to be the most pertinent were listed as shown in appendix X, but the Group recognizes that this is not an exhaustive list. It can, however, serve as a guide to the Secretariat in acquiring and updating, with the help of the consultant expert, documentation for the benefit of members of any future investigative team (see para. 72 (vi)).

89. All the lists shown in appendices VIII, IX and X are considered to be open-ended and should be added to and updated in accordance with procedures set forth in section IV of the present report.

IV. ADMINISTRATIVE SUPPORT FOR IMPLEMENTING AND UPDATING THE PROCEDURES

A. Updating

90. To maintain the effectiveness of the procedures and the relevance of the documentation, updating of the technical and administrative aspects of the present report is required.

91. In this regard, Governments as well as national and international organizations and scientific and research institutes should continue to co-operate fully with the Secretary-General by providing regularly updated information. Governments and the organizations and institutions concerned should:

(a) Ensure regular updating of the list of experts and of the laboratories designated by them so as to facilitate the conduct of the investigation;

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(b) Communicate to the Secretariat new information available to them regarding either technical aspects of the procedures or the documentation which is the subject of the present report;

(c) Ensure the updating of the information previously provided by them.

92. The Secretariat should also be in a position to undertake periodic updating of the technical and administrative aspects of the report every four years or whenever requested by a resolution of the General Assembly. This task will be carried out with the assistance of expert consultants designated by the Secretary-General.

B. Administrative support

93. Bearing in mind the tasks required of the Secretariat for implementing the procedures set forth in the foregoing sections, it would be necessary to maintain adequate professional capability and to designate a focal point within the Department for Disarmament Affairs. In view of the technical nature of some of the tasks to be performed by the Secretariat, the services of a qualified expert consultant, to assist in this regard would also be required. It should also be borne in mind that during the operational stage of an investigation, additional supporting services would be needed, for example, legal, security and administrative services, etc.

APPENDIX I

Time aspects to be taken into account for the initiation
of an investigation

1. Two main elements to look for in seeking evidence to verify an alleged use of chemical or biological warfare agents are: (a) samples of such agents or their degradation products, and (b) signs and symptoms directly related to the use of such agents. In deciding whether information concerning alleged use of chemical or bacteriological warfare agents has been submitted soon enough for an investigation to be initiated, the Secretary-General has to take into account the persistence of the possible agents that could have been used and the duration of signs and symptoms related to the use of those agents, if there are any alleged victims.
2. The persistence of chemical warfare agents depends on their physical and chemical properties, mainly volatility, solubility in water and decomposition by humidity and ultra-violet light. The extent to which self-decontamination of an area takes place is determined by meteorological conditions such as air temperature, wind speed, relative humidity and precipitation. Even more important may be the surface characteristics of contaminated terrain and materials. The surface temperature may vary considerably between different objects at the same location depending on type and colour, thus increasing or decreasing evaporation time. Surfaces of porous structures in which the agents may be adsorbed or absorbed or painted surfaces in which the agents may be dissolved will increase the persistence time of chemical warfare agents. In table 1, approximate persistence time for some chemical warfare agents is given for three different weather conditions.
3. Victims surviving exposure to chemical warfare agents may, depending on dose and agent, show signs and symptoms of very variable duration. For example, recovery from exposure to hydrogen-cyanide may take place within hours while exposure to phosgene may give rise to chronic sequelae. Blisters from mustard gas may heal within three weeks and a detectable decrease in blood cholinesterase level following exposure to nerve gases will remain for about three weeks in human beings.
4. Toxins that may be used as warfare agents have a negligible volatility. The botulinum toxins are stable in cold stagnant water for a week and in food for a longer period provided air is excluded. The stability of toxins is usually high and they may persist in the terrain for several weeks after dissemination. Precipitation will, however, wash off, dissolve and dilute them. Considering the fact that low levels of toxins may be of natural occurrence, timely investigation of alleged use of this type of agent is important.
5. The viability of biological agents decreases gradually over a period of hours or days at a progressively diminishing rate in open air. When used as warfare agents, however, there are various means by which their survival may be enhanced such as the use of specially "modelled" pathogenic strains or their protection by encapsulation. Spore-forming organisms like anthrax, on the other hand, may survive for decades. The relative humidity is the most important meteorological

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factor affecting the viability of micro-organisms in the open air. Usually the rate of inactivation is greater at low relative humidity although for some organisms maximum inactivation occurs at relative humidities around 50 per cent. The effect of temperature on the survival rate is not highly significant at ambient levels. Ultra-violet radiation by direct sunlight has a strong lethal effect on micro-organisms and, for this reason, a biological attack would most likely be carried out at night.

6. The incubation period and duration of illness for some biological agents that may be used to attack man is shown in table 2. Speed in carrying out investigation of an alleged biological attack is also important since it may be possible to detect an increase in antibodies if blood samples are collected soon enough. Such an increase is usually evident 10 to 14 days after the onset of a disease and is highly indicative of exposure to a particular micro-organism.

Table 1. Persistence time for some chemical warfare agents

Common name	Weather conditions		
	10°C, rainy, moderate wind	15°C, sunny, light breeze	-10°C, sunny, no wind, settled snow
Sarin	1/4 - 1 h	1/4 - 4 h	1 - 2 days
Tabun	1/2 - 6 h	1 - 4 days	1 day - 2 weeks
Soman	3 - 36 h	2.5 - 5 days	1 - 6 weeks
VX	1 - 12 h	3 - 21 days	1 - 16 weeks
Hydrogen cyanide	Few minutes	Few minutes	1 - 4 h
Cyanogen chloride	Few minutes	Few minutes	1/4 - 4 h
Phosgene	Few minutes	Few minutes	1/4 - 1 h
Mustard gas	12 - 48 h	2 - 7 days	2 - 8 weeks
CS 1 (tear gas)	-	2 weeks	-

Table 2. Incubation period and duration of illness for some biological agents that may be used to attack man

Disease	Incubation period	Duration of illness
VIRAL		
Chikungunya fever	2 - 6 days	2 weeks - a few months
Dengue fever	5 - 8 days	Few days - weeks
Eastern equine encephalitis	5 - 15 days	1 - 3 weeks
Tick-borne encephalitis	1 - 2 weeks	1 week - a few months
Venezuelan equine encephalitis	2 - 5 days	3 - 10 days
Influenza	1 - 3 days	3 - 10 days
Yellow fever	3 - 6 days	1 - 2 weeks
Smallpox	7 - 16 days	12 - 24 days
RICKETTSIAL		
O-fever	10 - 21 days	1 - 3 weeks
Psittacosis	4 - 15 days	1 - several weeks
Rocky Mountain spotted fever	3 - 10 days	2 weeks - several months
Epidemic typhus	6 - 15 days	Few weeks - months
BACTERIAL		
Anthrax	1 - 5 days	3 - 5 days
Brucellosis	1 - 3 weeks	Several weeks - months
Cholera	1 - 5 days	1 - several weeks
Glanders	2 - 14 days	4 - 6 weeks
Melioidosis	1 - 5 days	4 - 20 days
Plague	2 - 5 days	1 - 2 days
Tularaemia	1 - 10 days	2 - several weeks
Typhoid fever	1 - 3 weeks	A few - several weeks
Dysentery	1 - 3 days	A few days - weeks
FUNGAL		
Coccidioidomycosis	1 - 3 weeks	A few weeks - months

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APPENDIX II

Various specialties that may be needed for an investigation

The following list includes the various specialties that may be required during the conduct of an investigation of alleged use of chemical or biological warfare agents. In general each expert nominated by a Member State should have a broad background and preferably have experience in field work. The nomination should be accompanied by the following information about the expert:

Name of expert;

Field of expertise;

Current position;

Mailing address;

Telephone numbers to reach expert rapidly;

Educational background;

Relevant experience;

Language proficiency;

Citizenship;

Possibility of bringing with him his own equipment which may be needed for the investigation.

A. Medical experts

These experts should have broad background and wide experience in their field. It is preferable if they are familiar with the effects of chemical and biological warfare agents in their respective fields.

1. Specialist in infectious diseases

Functions

- (a) To diagnose infectious diseases in the alleged casualties;
- (b) To conduct quick diagnosis techniques;
- (c) To collect physical samples from the area of the alleged attack and also biomedical samples from the alleged victims;
- (d) To conduct post-mortem gross examination and collect tissue samples for further examination by specialized laboratories.

2. Dermatologist

Functions

(a) To examine alleged victims who might have skin manifestations and decide whether this could have been caused by a chemical or biological warfare agent;

(b) To take samples for quick diagnosis or for specialized analyses.

3. Epidemiologist

Functions

(a) To evaluate the diseases that occur due to the use of chemical or biological agents in relation to the existing local environmental conditions;

(b) To evaluate the various sanitation problems and the prevailing living conditions of the population in the area.

4. Neurologist

Functions

To decide whether the neurological manifestations exhibited by the alleged victims could be attributed specifically to certain chemical or biological agents alleged to be used.

5. Hematologist

Functions

(a) To correlate the findings in the alleged casualties with the possible chemical or biological agents that could have been used;

(b) To take blood or bone-marrow samples to conduct on-the-spot diagnosis, or to be sent to specialized laboratories for confirmatory analyses.

6. Psychiatrist

Functions

To evaluate signs and symptoms exhibited by the alleged victims to judge whether they could have been produced by any chemical warfare agent or some other cause.

7. Clinical toxicologist

Functions

(a) To diagnose signs and symptoms of alleged victims and correlate them with the possible chemical or toxic agent that could have been used;

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(b) To collect blood and urine samples and conduct preliminary on-the-spot diagnosis;

(c) To collect biomedical samples for the final analyses;

(d) To conduct post-mortem examination when required.

8. Internist

Functions

(a) To diagnose signs and symptoms exhibited by casualties and correlate them to specific chemical or biological warfare agents;

(b) To collect biomedical samples for quick analyses or for more specialized laboratory testing;

(c) To conduct post-mortem examinations when required.

9. Forensic pathologist

Functions

(a) To conduct post-mortem examination on victims;

(b) To decide possible cause of death;

(c) To collect samples from the corpse for further laboratory tests.

10. Veterinarian

Functions

(a) To correlate the signs and symptoms in the animal to any toxic or infectious agent;

(b) To collect samples for analyses;

(c) To conduct post-mortem examinations.

B. Other specialists whose services may be needed
in an investigation include:

1. Sociologist, ethnologist, cultural anthropologist, psychologist/social psychologist

Qualifications

(a) Broad experience in the social patterns of people of different cultures. (In specific instances the choice of expert in this area will be guided by his specific knowledge of the area);

- (b) Experience in study of behaviour of people under stress;
- (c) Special experience in interviewing.

Functions

- (a) To help with the interviews;
- (b) To help in evaluation of the account given by the alleged victims or eyewitnesses.

2. Plant pathologist

Qualifications

- (a) Experience in plant diseases;
- (b) Experience in the effects of toxic substances on plants.

Functions

- (a) To examine plants affected by chemical or biological agents and try to correlate the findings with the possible agent;
- (b) To conduct microscopic examination of the affected plants to reach a diagnosis;
- (c) To collect samples for specialized laboratory testing;
- (d) To identify plant species through examination of plant samples, e.g., foliage, pollen, etc.

3. Military expert in chemical and biological defence

Functions

- (a) To examine the site of the alleged chemical or biological attack;
- (b) To collect samples from the site of the attack for spot testing and for confirmatory tests;
- (c) To interview the alleged casualties or eyewitnesses;
- (d) To evaluate the accounts and decide whether they are in conformity with the tactics or practices of chemical or biological attack;
- (e) To evaluate the signs and symptoms and to ascertain what agent might have produced them.

4. Chemist

Qualifications

- (a) Experience in microchemical technique;
- (b) Experience in elucidation of chemical structure of small amounts of toxic substance in environmental and biomedical samples;
- (c) If possible, experience in chemical warfare agents.

Functions

- (a) Collection of samples from the site of the attack for spot testing;
- (b) Evaluation and final analysis of the data collected.

5. Microbiologist

Qualifications

- (a) Working experience in virology, bacteriology and/or mycology;
- (b) Working experience in the field of environmental microbiology;
- (c) Experience in collection of environmental and biomedical samples;
- (d) If possible experience in biological warfare agents.

Functions

- (a) Microbiological survey of the area of alleged use of biological warfare agents;
- (b) Collection of samples from polluted objects and alleged victim;
- (c) On-the-spot diagnosis of micro-organism.

APPENDIX III

List of types of laboratories needed

In designating laboratories to assist in the analysis of samples collected during an investigation, Member States should provide the Secretary-General with the following information:

Name of laboratory

Field of expertise

Point of contact

Mailing address and telephone number for point of contact

General nature of laboratory

Specific facilities and equipment

Relevant experience

Laboratory for detection of chemical warfare agents

Functions

- (a) To detect micro-amounts of chemical warfare agents or their degradation products in environmental and biomedical samples;
- (b) To detect unknown toxic materials and elucidation of the possible structures particularly in minute quantities in environmental and biomedical samples;
- (c) To conduct toxicological evaluation of samples collected in field surveys;
- (d) If possible to be able to spike control samples with certain chemical warfare agents.

Laboratory for detection of biological warfare agents

Functions

- (a) To detect the presence of biological warfare agents in environmental and biomedical samples;
- (b) If possible to be able to spike control samples with certain biological warfare agents.

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Toxicological laboratory

Function

To detect the presence of traces of toxic substances in environmental and biomedical samples through *their toxic effects* and to determine the possible nature of these substances.

Pathological laboratory

Function

To conduct macroscopic and microscopic examination of organs and tissues collected from casualties of chemical and/or biological attack and to determine the possible agent that could have been used.

Botanical laboratory

Functions

- (a) To detect the effects of chemical and/or biological warfare agents on plants through macroscopic and microscopic study of samples of plants exposed;
- (b) To determine the species of plants through the examination of foliage, pollen, etc.

APPENDIX IV

Illustrative list of items that might be required
for an investigation

(a) Protective equipment

Gloves, protective clothing, gas masks, boots, etc., in different sizes and adequate numbers.

(b) Field detection equipment

Kits for detection of chemical and biological warfare agents (sets of reagents, collecting devices like adsorption or absorption tubes, personal sampler, test strips, pH paper, etc.).

(c) Sampling and packaging equipment

(i) Tools for the collection of samples: forceps, knives, scissors, spoons, spatulas, etc.;

(ii) Polyester (for example, Mylar) bags in different sizes and tape for sealing;

(iii) Glass containers in different sizes - 5 to 1,000 ml;

(iv) Labelling materials;

(v) Containers, for example, tin cans (1 to 5 litres) filled with an adsorbing material (e.g., vermiculite);

(vi) Insulated containers for refrigerated samples;

(vii) Zip-lock bags in different sizes;

(viii) Aluminium foil, household type;

(ix) Chemicals for preserving samples: ethanol, formaldehyde and other disinfectants.

Some of these equipment should be sterile for the biological samples.

(d) Medical supplies for members of the team

Vaccines, antidotes and medicines needed for the protection of the team as well as first aid requirements.

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APPENDIX V

Model clauses for inclusion in an exchange of letters between
the United Nations and States involved in the conduct of an
investigation relating to security, logistic support,
transportation and laboratory analysis

[Dear Sir,]

I have the honour to refer to [the investigation]* which the United Nations [Team of Experts] is to carry out in [country or territory] from [dates] pursuant to [legislative or other reference]. With the present letter I wish to obtain your Government's acceptance of the following arrangements:

[paragraph concerning the description of practical arrangements such as composition of the team, description of equipment, date of arrival ...]

I wish to propose in addition that the following conditions shall apply to the [Team of Experts]:

A. Security arrangements and logistic support

- (i) The Convention on the Privileges and Immunities of the United Nations of 13 February 1946 (to which [country] is a party**) shall be applicable to the [Team of Experts]. The expert members of the [Team of Experts] shall enjoy the privileges and immunities accorded to experts on mission for the United Nations by article VI of the Convention. Officials of the United Nations performing functions in connection with the [Team of Experts] shall enjoy the privileges and immunities provided under articles V and VII of the Convention.
- (ii) The personal security of the [Team of Experts] shall be guaranteed by the competent authorities of [country] which shall take all appropriate steps to that end. The competent authorities shall also provide all the logistic assistance necessary for the purpose of the investigation and shall give favourable consideration to any requests by the [Team of Experts] with regard either to personal security or the security of its equipment, evidence or logistic facilities.
- (iii) The equipment required for the investigation shall be allowed to enter and leave [country] without inspection or any other form of interference by customs or police authorities. The [Team of Experts] shall be allowed to circulate freely within the territory of [country] for the purposes of the investigation. The same conditions shall apply to any physical

* The brackets would be filled with relevant data as appropriate.

** If applicable.

evidence gathered by the [Team of Experts] (including but not limited to bio-medical or post-mortem samples, clothing, munitions, soil, contaminated vegetation) and to non-physical evidence such as testimony and interviews.

- (iv) The competent authorities shall ensure that the equipment of the [Team of Experts] and the evidence it gathers shall remain under its control throughout the investigation.

B. Modalities of transport

- (v) The [Team of Experts] shall specify the mode of transport for physical evidence. It shall also make or approve the choice of the carrier of all physical evidence obtained by the [Team of Experts]. These conditions shall apply to both domestic and international transport of such evidence. In this regard the [Team of Experts] shall make every effort to follow the appropriate procedures for packaging and handling of dangerous materials as specified below and shall comply with the relevant international procedures for the transport of dangerous goods.
- (vi) For the carriage of samples by civil air transport [the States] involved should undertake to apply the regulation contained in annex 18 to the Convention on International Civil Aviation as detailed in the (ICAO) International Civil Aviation Organization Technical Instructions for the safe transport of Dangerous Goods and the International Air Transport Association (IATA) Dangerous Goods Regulations. (These instruments should be annexed to the letter.)
- (vii) The carriage of samples of infectious substances as defined by United Nations Division 6.2 shall be in accordance with the requirements for United Nations 2814 and/or United Nations 2900 as appropriate.* State and operator variations shall be observed as applicable.
- (viii) For poisons and other samples, the requirements laid down in the above-mentioned instruments shall be followed for identification, classification, quantity limitations, packing, marking, labelling and documentation. State and operator variations shall be observed as applicable. Where required, arrangements for special handling during transport, in order to preserve the condition of the samples, should be made between the group of experts and the carrier.

* The dangerous goods classification is established in the annex 18 to the Convention on International Civil Aviation, on the basis of the work of the United Nations Committee of Experts on the transport of dangerous goods. Class 6 refers to "Poisonous (Toxic) and Infectious Substances" under which division 6.1 describes "Poisonous (Toxic) Substances" and division 6.2 "Infectious Substances". Item 2314 applies to "Infectious Substances, human not elsewhere specified (n.e.s.)" and item 2900 applies to "Infectious substances, non-human, n.e.s.".

- (ix) Derogation from the requirements of the referenced instruments shall be in accordance with the exemption provisions of the instruments and are subject to the mutual agreement between [the States involved] and the [Team of Experts]. [The Team of Experts] shall obtain agreement of the carrier to transport the samples under exemption.
 - (x) The competent authorities shall make every effort to facilitate and ensure the safety and rapidity of transport. To that end they shall support all such representations as the [Team of Experts] may make to carriers and they shall refrain from any measure that may hinder the carriage either of evidence or of equipment for use by the [Team of Experts].
 - (xi) In the event that carriage by a scheduled service is impossible, the competent authorities shall assure the speediest possible transport of the sample to the designated laboratories by their own means and in agreement with the [Team of Experts].
- C. Clause for inclusion in an exchange of letters with States furnishing laboratory facilities
- (xii) The competent authorities shall undertake to permit the examination of samples in the laboratories designated by the [Team of Experts]. The designated laboratory shall be responsible and liable for the conduct of the analysis entrusted to them in accordance with the laws and regulations in force in [country].

APPENDIX VI

Illustrative questionnaire for interviews

The following questionnaire suggests the elements of information which the interviewer would wish to elicit from alleged victims and/or eyewitnesses. It would, of course, be modified to take account of the special circumstances of the interview and other factors such as the cultural background of those interviewed.

Name

Age

Sex

Occupation

Address

1. Did you witness the attack?
2. What was the date and the time of the attack?
3. Where did this attack happen?
4. Where were you at the time of the attack? (in the open or under cover) How far were you from the site of the attack and what were you doing? Were you with other people?
5. What were the weather conditions at the time of the attack? (sunny, cloudy, windy, etc.)
6. Can you describe what you saw?
 - (a) Was the attack by airplanes or artillery? If it was serial attack, how many planes have you seen and how high were they? Was it air spray or bombs and rockets? Did they explode in air or on impact?
 - (b) Did the attack produce any clouds, and if so what colour did they have?
 - (c) How long did they last before complete dissipation?
7. If you were affected by the attack:
 - (a) What was the distance between you and the site of detonation, or spraying? What was the direction of the wind with respect to you and the site of detonation?

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(b) What was your first reaction? Did you experience any odour? Did you use any protective means? Did you seek a shelter? What did you suffer from first? What was the sequence of symptoms and how long did they last? Did you faint?

(c) Did you receive any help or medical treatment? If so, where and how soon was it given? What was the nature of the treatment? Did you completely recover or do you still suffer from the effects?

(d) Were any of the people accompanying you affected, if so, how many and what did they suffer from?

8. Did you see anybody die?

(a) How far were they from the site of the attack?

(b) What signs and symptoms did you observe in such cases and what was the sequence in which they occurred?

(c) How soon did they die after exposure?

9. Were animals affected? If so, where were they in relation to the site of the attack? How soon were they affected? What did they suffer from? Did you see any animal die? How soon after the attack?

APPENDIX VII

Sample handling for chemical warfare agents

1. Bulk agents, remnants of munitions, contaminated protective equipment and clothing

Each sample could be placed in a bag made of plastic without plasticizer (for example, Mylar) and sealed after removing the excess void space. This bag is placed in a second bag, which is sealed in the same way. The double wrapped sample is then surrounded by an adsorbing material (for example, vermiculite) and placed in a container. The container is then completely filled with adsorbing material and sealed.

2. Environmental samples (soil, vegetation, water, etc.)

Solid samples could be packed in the same manner as mentioned in paragraph 50 above. Liquid samples are filled in pre-cleaned wide-neck glass bottles with teflon sealed lids. Each bottle is placed in a plastic bag, which is sealed after removing excess void space and placed in a container surrounded with adsorbing material as in paragraph 50 above.

3. Biomedical samples (body fluids, tissues)

Body fluids (human or animal) are collected in pre-cleaned glass containers of appropriate size with teflon sealed lids. Each container is placed in a plastic bag, which is sealed and packed in the same manner as for liquids in paragraph 52 above.

Tissues (human or animal) can be collected either in plastic bags or pre-cleaned glass containers. These are handled in the same manner as solid samples and liquids, respectively, in paragraph 52 above.

As needed, the special preservatives, such as ethanol or formaldehyde, would be used for the required analysis.

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APPENDIX VIII

General references concerning health aspects of potential
chemical and biological warfare agents

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7. Environmental Health Criteria 11, Mycotoxins, WHO 1979.
8. Protection Against Trichothecene Mycotoxins. Committee on Protection Against Mycotoxins, Board of Toxicology and Environmental Health Hazards, Commission on Life Sciences, National Research Council, National Academy Press, Washington, 1983.
9. Plaque Surveillance and Control, WHO 1979.
10. WHO/USSR Ministry of Health Consultation on the Management of Emergencies caused by "unusual" Diseases, WHO 1979.
11. Strategies for the Control of Emergencies caused by Epidemics of Communicable Diseases, WHO 1981.
12. Strategie de Lutte Contre les Epidemies de Peste, WHO 1982.
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APPENDIX IX

Lists of some potential chemical and biological warfare agents

Table I

Some chemical warfare agents and other substances which are potential chemical warfare agents or are alleged to be applicable to chemical warfare.

I. Lethal agents

A. Nerve agents

1. Tabun
2. Sarin
3. Soman
4. VX

B. General poisons

1. Hydrogen cyanide
2. Cyanogene chloride
3. Phosgene
4. Diphosgene
5. Triphosgene
6. Chloropicrine

C. Toxins

1. Botulinal Toxin A
2. Staphylococcal enterotoxin B
3. Ricin
4. Saxitoxin
5. Trichothecenes

II. Incapacitating agents

A. Vesicants

1. Sulphur mustard
2. Nitrogen mustard
3. Lewisite
4. Phosgene oxime

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B. Psychotomimetic agents

1. Benactyzine
2. LSD
3. Psilocybine
4. Mescaline

C. Harassing agents

1. Chloroacetophenone
2. Orthochlorobenzalmalononitrile
3. Dibenzoxazepine
4. Adamsite
5. Diphenylchloroarsine
6. Diphenylcyanoarsine

III. Anti-plant agents

A. Herbicides

1. 2, 4-Dichlorophenoxyacetic acid
2. 2,4,5-Trichlorophenoxyacetic acid

B. Soil sterilants

1. Bromacil
2. Monuron

Table II

Some potential biological warfare agents.

I. Viral infections

1. Yellow fever
2. Tick-borne encephalitis
3. Japanese encephalitis
4. Eastern equine encephalitis
5. Dengue fever
6. Venezuelan equine encephalitis
7. Chikungunya fever
8. O'nyong-nyong
9. Rift valley fever
10. Influenza
11. Smallpox

II. Rickettsial infections

1. Q-fever
2. Psittacosis
3. Rocky mountain spotted fever
4. Epidemic typhus

III. Bacterial infections

1. Anthrax
2. Brucellosis
3. Cholera
4. Glanders
5. Melioidosis
6. Plague
7. Tuluraemia
8. Typhoid
9. Dysentery
10. Shigellosis

IV. Fungal infections

1. Coccidioidomycosis
2. Histoplasmosis

APPENDIX X

Specific references concerning health aspects of potential
chemical and biological warfare agents

I. Lethal Agents

A. Nerve Agents

1. Tabun

(a) Signs and symptoms

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Eur J. Pharmacol (NETHERLANDS), Feb. 10, 1984, 98 (1) p. 129-32.

(b) Treatment

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II. Incapacitating Agents

A. Vesicants

1. Sulfur mustard

(a) Signs and symptoms

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