Assembly of Western European Union
The interim European Security and Defence Assembly

DOCUMENT A/1758 **5 December 2001**

FORTY-SEVENTH SESSION

Chemical and biological weapons control – new challenges

REPORT

submitted on behalf of the Defence Committee
by Mr Schloten, Chairman and Rapporteur

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[1] Adopted unanimously by the Committee on 5 November 2001.

[2] *Members of the Committee*: Mr *Schloten* (Chairman); MM Baumel, McNamara (Vice-Chairmen); MM Acosta Padrón, de Arístegui San Román, Mrs Bakoyianni, MM Blaauw (Alternate: *Dees*), Cox, Dhaille, *Díaz de Mera*, Dreyfus-Schmidt, Glesener, Goris, Goulet, Gubert (Alternate: *Tirelli*), Henry, Irmer, Kotsonis, Koulouris, Leers, Lemoine, Medeiros Ferreira, Mota Amaral, Neumann, Pellicini (Alternate: *Nessa*), Pereira Coelho, *de Puig*, Ranieri, Rapson, *Rigoni*, *Rivolta*, Lord Russell-Johnston (Alternate: *Wilkinson*), MM Siebert, Timmermans, Valk (Alternate: Mrs v*an't Riet*), Wilshire, *Zierer*.

Associate members: MM Bársony, Bielecki, Braun, Chobot, Docekal, Ms Fjeldsted, MM Godal, Gönül, Kalkan, Kelemen, S. Konarski, W. Konarski, Mutman, Necas, Pastusiak, Telek.

N.B. *The* names *of those taking part in the vote are printed in italics.*

RECOMMENDATION 701[1]

on chemical and biological weapons control – new challenges

The Assembly,

(i) Stressing the important contribution made by the Biological Weapons Convention and the Chemical Weapons Convention to international peace and security;

(ii) Aware of the technical developments that have taken place in the fields of chemistry and biology, especially biotechnology and genetic engineering, which could have offensive military applications;

(iii) Concerned at the possibilities for evading the provisions of the Biological Weapons Convention and the Chemical Weapons Convention that may result from such developments;

(iv) Highlighting the threat to international peace and security from persistent proliferation of toxic chemical and biological agents and the technologies from which they are produced;

(v) Emphasising the need to bring together the chemical, biological and biotechnology and pharmaceutical industries in the endeavour to control chemical and biological weapons, while respecting their legitimate commercial interests, in particular by affording due protection to patents and processes;

(vi) Concerned at the fact that among states that have not yet signed the Chemical Weapons Convention are countries, in particular Middle Eastern and Asian countries, which have research and development capabilities in this area;

(vii) Uneasy over the delays incurred in relation to the destruction of chemical weapons stockpiles, particularly those in the possession of the Russian Federation, and calling on the Russian Government to honour its commitments in this sphere, by complying with the time-limits provided for under the Chemical Weapons Convention;

(viii) Aware of the financial and practical difficulties that the achievement of that task presents and appealing for financial aid and the necessary technical assistance to be given, in a bilateral or multilateral framework, for the destruction of such chemical weapons stockpiles as soon as possible;

(ix) Desirous for the means available to the Organisation for the Prohibition of Chemical Weapons (OPCW) for overseeing compliance with the provisions of the Chemical Weapons Convention and for setting up effective assistance machinery – in particular in the face of the threat of a terrorist attack involving the use of chemical weapons – to be increased;

(x) Concerned about possible environmental damage from old chemical weapons dumped at sea, especially in the Baltic Sea area;

(xi) Noting with concern that the Biological Weapons Convention still does not provide for an effective system of control and verification of its application;

(xii) Calling on all signatory states to comply with their commitments in this field and not to deflect research into vaccines and forms of protection against toxic biological agents from its legitimate aim by developing organisms which, in modified or strengthened form, are resistant to current defences;

(xiii) Uneasy at the threat posed by the possible use of toxic biological agents in the context of terrorist action;

(xiv) Calling on the signatory states of the Biological Weapons Convention to pursue their efforts to negotiate the setting up of effective control and verification machinery, responsibility for which could be assigned to an international organisation similar to the OPCW;

[1] Adopted unanimously by the Assembly on 5 December 2001 (10th sitting) on the basis of the amended draft recommendation.

(xv) Calling on the member states of the Australia Group to enhance cooperation between them for the control of toxic biological agents and, in the face of the increased threat of biological terrorism, give thought to setting up permanent structures for information exchange and assistance,

RECOMMENDS THAT THE COUNCIL

1. Place on its agenda follow-up of chemical and biological weapons issues and the risks arising from the emergence of a terrorist threat involving the use of biological and chemical weapons, and also identification of the measures necessary to protect civilian populations more effectively against these risks;

2. Demand that WEU nations that still hold chemical weapons stocks destroy them, according to the provisions and time scales provided for in the Chemical Weapons Convention, and call upon other nations to do the same;

3. Encourage information exchange and cooperation among the WEU and other European countries in connection with the disposal of old and abandoned chemical weapons with a view to preventing environmental damage;

4. Encourage information exchange, cooperation and the setting up of assistance machinery among WEU countries in connection with chemical and biological weapons control issues and the threat that the use of toxic, chemical and biological agents presents in terrorist attacks;

5. Encourage WEU nations sitting on international committees and groups responsible for the oversight and strengthening of the Chemical Weapons Convention and the Biological Weapons Convention to propose joint actions in this field, and, as far as possible, in cooperation with other allies and partners, particularly the United States, Canada and the Russian Federation;

6. Ask WEU nations to continue to pursue through diplomatic channels the matter of strengthening the Biological Weapons Convention and setting up effective control and verification machinery;

7. Ask WEU nations that are members of the Australia Group to enhance cooperation between them for the control of biological agents and, in the face of the increased threat of biological terrorism, give thought to setting up permanent structures for information exchange and assistance;

8. Keep the Assembly regularly informed of any steps it takes in regard to chemical and biological weapons control and monitoring the threat of terrorist use of toxic chemical and biological agents.

EXPLANATORY MEMORANDUM

submitted by Mr Schloten, Chairman and Rapporteur

Foreword from the Rapporteur

The Defence Committee of the WEU Assembly decided to submit to the second part of its forty-seventh session a report on chemical and biological weapons control, by way of a follow-up to its earlier reports on nuclear weapons control and control over conventional armaments and armed forces.

The 11 September attacks in the United States and their after-effects have again thrown the entire issue of chemical and biological weapons, and the danger of use being made of them in terrorist or criminal acts, into high relief. This dimension has been taken into account in the report, from the early stages of its preparation, but for reasons of consistency and continuity of treatment of the topic in hand, has not been singled out for detailed examination.

Your Rapporteur has updated the report's content to take account of developments and feels that the threat of use by terrorists of chemical and biological agents constitutes a separate and complex issue, better dealt with in a special report which the Defence Committee should include in its next programme of work.

I. Introduction

1. A hallmark of the twentieth century has been the development and recurrent use of chemical substances and biological agents for military and political ends – witness Ypres (Belgium) in 1915, the second world war experiments of Japanese army unit 731, the conviction of Dr Wouter Basson in South Africa or the Tokyo subway attack in 1995[2] – with such use being directed specifically in the case of acts of terrorism against the civilian population. The weight of public opinion in modern-day societies is vehemently opposed to biological and chemical (BC) weapons, which produce an unparalleled fear exceeding even that of nuclear warfare. While nuclear weapons are now tolerated by and large in the countries that have them (the upshot of the media attention that surrounds nuclear testing and incessant information drives directed towards the public at large) BC weapons are almost always viewed askance, with the result that research in this area is invariably conducted under a cloak of secrecy and silence in Europe's democracies and frequently presented in the guise of a defence-related activity.

2. BC weapons constitute an area where a high degree of convergence exists between military and civilian technologies. The dual nature of the activities of the chemical and pharmaceutical industries is more pronounced than in other technological and industrial sectors. Conventional combat tanks, fighter aircraft and missiles all have civilian "inputs" but a strictly military end-use, and their deployment and use are to all intents and purposes visible. The lethal properties of the majority of BC agents and chemicals, even when not used for military ends, makes them more dangerous, including for those handling them. The Bhopal disaster, in India, where a toxic cloud released by a pesticide plant, during the night of 2-3 December 1984, led to the deaths of thousands of people, or the present crises involving BSE and the foot and mouth disease epidemic which started in the United Kingdom and spread to the rest of Europe, are all telling examples.

3. Recourse to chemical weapons during the first world war had a massive psychological impact proportional to its effects on the battlefield. When the conflict was over, the states constituting the international community of the time sought to restrict the use of chemical weapons in any future war.

[2] The nerve gas Sarin was released in commuter trains on three different Tokyo subway lines. Sarin was concealed in lunch boxes and soft-drink containers and placed on subway train floors. It was released as terrorists punctured the containers with umbrellas before leaving the trains. The incident was timed to coincide with the rush hour, when trains were packed with commuters. 11 people were left dead and more than 5 500 injured. "Sarin Poisoning on Tokyo Subway", Southern Medical Journal (Etats Unis) June 1997, http://www.sma.org.

Their efforts were consummated in the adoption, in 1925, of the Geneva Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or other Gases. In point of fact, chemical weapons production was never actually halted, but for the signatories, the Protocol served first and foremost to establish a rule prohibiting their use, which was observed throughout the second world war, notwithstanding the fact that the main belligerents had stockpiles of weapons, superior in quality and quantity to those available during the earlier conflict. This situation obtained throughout the cold war until the signature, in Paris on 13 January 1993, of the Chemical Weapons Convention (CWC) prohibiting not only the use but also the production of such weapons, and which included machinery designed to prevent their proliferation.

4. Modern biological weapons appeared at the end of the first world war and their development increased prior to and during the second. With the advent of the cold war competition between the United States and the Soviet Union in this field intensified until, on 25 November 1969, US President Richard Nixon declared unilaterally that the United States was abandoning the biological arms race. Through the agency of the United Nations Disarmament Commission, the United States and the Soviet Union reached agreement on ending the development of biological weapons. On 10 April 1972, the Biological Weapons Convention was signed by the United States, the Soviet Union and the United Kingdom and opened for signature to other states.

5. Today, these two instruments, the Chemical Weapons Convention and the Biological Weapons Convention, are the cornerstones of the control and non-proliferation regime that governs BC weapons. Progress towards a reduction in the threat from such weapons has been considerable, especially if one considers that larger states with major chemical and pharmaceutical potential are bound by those conventions and apply them. The risk of BC weapons aggression has not disappeared, but has become increasingly associated with acts of terrorism perpetrated by non-state bodies. This is a factor to which experts in the field have been turning their attention ever since the sarin attacks in Japan by a religious sect in 1994 and 1995 and, more recently, following cases of anthrax contamination recorded in the United States in October 2001.

6. Proliferation "know-how" is another weak spot of the present system. The free movement of persons, goods and information facilitates the dissemination of methods of production of biological and chemical agents, even if this is essentially restricted to a fairly small number of experts. Owing to their "dual" (civilian and military) nature, products and production processes can escape international control. It is essential therefore to set up effective and flexible verification systems to take account of the need to protect legitimate economic and industrial interests. The problem arises more particularly in the case of biological weapons, the possibilities for development of which are increased with the emergence of new biotechnologies and advances in genetics, whose consequences and applications could lead to the best and worst of all worlds, in military as in other terms.

II. The Chemical Weapons Convention: present and future

7. The nerve gases used in the first world war affected over one million people and were the cause of some 90 000 deaths. Tens, perhaps hundreds of thousands of people were left to suffer the consequences for the remainder of their lives. In some cases, clouds of gas were carried on the wind behind the front lines, causing panic, injury and death among the civilian population. For the civilised nations of the time, victorious, vanquished and neutral alike, a prohibition on the use of chemical weapons seemed like a moral and political imperative. This increased awareness led to the signature, on 17 June 1925, of the Geneva Protocol on the Prohibition of the Use of Asphyxiating, Poisonous or other Gases. On the eve of the second world war, 40 states had acceded to the Protocol, the United States and Japan being notable exceptions.

8. In the 1930s, there were at least two documented cases of the use of nerve gas, the first by Italy in the Ethiopia campaign of 1935-1936 and the second by Japan in China in 1938. The "no first use" commitment implicit in the Geneva Protocol was nevertheless adhered to throughout the second world war, although the main protagonists in the conflict produced and possessed chemical weapons. Between 1937 and 1944, three new gases also became available: sarin, tabun and soman. Chemicals derived from an industrial chemical originally used as a pesticide – hydrocyanic acid – and known under the trade name Zyklon B, were used solely against civilians.

9. The cold war was a period of research and development of new and increasingly sophisticated chemical weapons, especially nerve gases, including the V and VX gases developed by British researchers in the 1950s. Chemical weapons systems were also developed (munitions, bombs and shells) and, in the 1980s, binary weapons, made of two non-toxic chemicals which, when mixed together, became a lethal product, became part of the United States chemical stockpile. At the end of the cold war, American stocks of chemical agents stood at 31 000 tonnes (12 000 tonnes in munitions and 19 000 tonnes in store) while the Soviet Union had stockpiles of more than 40 000 tonnes (for which the Russian Federation is now responsible).

10. By the 1980s, the build-up of chemical weapons had become a matter of such concern that the United Nations Disarmament Conference in Geneva decided to set up an *ad hoc* group to deal with the issue. In 1984, the group was given a mandate to consider ways and means of reaching an agreement on the prohibition of chemical weapons. At the end of the decade, three events were to speed up the process, leading to the signature, in Paris, on 13 January 1993 of the Chemical Weapons Convention. Those events were:

- the Iraqi Government's decision to use nerve gas in its war with Iran, and against the civilian population of Iraqi Kurdistan (5 000 dead in Halajba on 16 March 1988), appalled Western public opinion and drew governments' attention to the dangers of chemical weapons proliferation;
- the Soviet-American memorandum of understanding, dated 23 November 1989, which set up a regime for verification and information exchange, and the June 1990 bilateral agreement on the destruction of chemical weapons;
- the Gulf crisis and war (August 1990-February 1991) and the attendant risk of the use of chemical weapons on civilians (Israel) as well as military targets and the threat of a possible riposte involving other non-conventional weapons.

11. From then on, not only was the use of chemical weapons forbidden, their very existence became unacceptable to the international community. Over the three days of the CWC opening and signing ceremony in Paris, 130 states signed – an eloquent demonstration of the resolve to banish the threat of chemical weapons once and for all.

1. The provisions of the CWC

12. The Chemical Weapons Convention came into force on 29 April 1997, four years after it was opened for signature, on 13 January 1993. The time lag was due to the length of the ratification process, as 65 states were required to ratify before implementation. Of these, the United States and the Russian Federation, the states with the largest declared stockpiles of chemical weapons, only ratified the Convention in 1997 (25 April and 5 November). Today, 174 states, including 143 states parties, have signed, ratified or acceded to the CWC.

13. The CWC prohibits the development, production, procurement, stockpiling or retention of chemical weapons or their transfer, directly or indirectly, to anyone, their use or military preparations for their use, or the provision of technical assistance or any other form of support to states engaging in any activity prohibited by the Convention and the use of riot control agents as a method of warfare. Each signatory also undertakes to destroy "chemical weapons it owns or possesses" and "all chemical weapons "it abandoned on the territory of another State Party". Chemical weapons production facilities must also be destroyed[3], closed down or converted.

14. The Convention sets up an implementing body, the Organisation for the Prohibition of Chemical Weapons, based in The Hague, Netherlands. The OPCW is responsible both for verification of compliance with the provisions of the CWC and for providing assistance in the event of aggression or accident within a state party with chemical weapons[4].

[3] Chemical Weapons Convention, Article I, General Obligations; Paris, 13 January 1993.

[4] CWC, Article X, Assistance and Protection against Chemical Weapons.

15. The Convention draws up categories of chemicals in terms of their end use, identified in three Schedules, thus distinguishing chemical weapons from chemical production for "peaceful" purposes. There are chemical weapons *per se*, toxic chemicals, precursors and "key components of binary or multi-component chemical systems". Chemical weapons also include "old chemical weapons" (produced before 1925 or in the period between 1925 and 1946 and which have deteriorated) and "abandoned chemical weapons" (i.e. abandoned by one state as from 1925 on the territory of another, without the latter's consent)[5]:

- Schedule 1 includes any toxic chemical or its precursor which has been "developed, produced, stockpiled or used as a chemical weapon as defined in Article II", poses otherwise "a high risk to the object and purpose of the present Convention by virtue of its high potential for use in activities prohibited under this Convention" and "has little or no use for purposes not prohibited under this Convention";
- Schedule 2 includes any toxic chemical or precursor that "poses a significant risk to the object and purpose of the present Convention because it possesses such lethal or incapacitating toxicity as well as other properties that could enable it to be used as a chemical weapon; (…) can be used as a precursor in one of the chemical reactions as the final stage of formation of a chemical listed in Schedule 1 or Schedule 2, part A; (…) poses a significant risk to the object and purpose of this Convention by virtue of its importance in the production of a chemical listed in Schedule 1 or Schedule 2, part A; (…) is not produced in large commercial quantities for purposes not prohibited under this Convention";
- Schedule 3 includes any toxic chemical or its precursor that "has been produced, stockpiled or used as a chemical weapon; (…) poses otherwise a risk to the object and purpose of this Convention because it possesses such lethal or incapacitating toxicity as well as other properties that might enable it to be used as a chemical weapon; (…) poses a risk to the object and purpose of this Convention by virtue of its importance in the production of one or more chemicals listed in Schedule 1 or Schedule 2, part B; (…) may be produced in large commercial quantities for purposes not prohibited under this Convention"[6].

16. In acceding to the CWC, states undertook to destroy 1% of their Schedule 1 weapons within three years of its entry into force (2000), 20% within five years (2002), 45% within seven years (2004) and all of them within 10 years (2007). These time limits may be extended to a final deadline of 29 April 2012. Schedule 2 and 3 chemicals must be destroyed by 29 April 2002. Destruction of production facilities for Schedule 1 chemicals must be completed by 29 April 2007 and the time limits for destruction of other categories and for conversions are 29 April 2002 and 29 April 2003 respectively.

2. Verification, declarations, inspections, assistance and non-proliferation

17. The Organisation for the Prohibition of Chemical Weapons "conducts (…) verification activities" provided for under the Convention. All States Parties are members of the Organisation, which is made up of a Conference of States Parties, an Executive Council and a Technical Secretariat:

- "The Conference shall be the principal organ of the Organisation"[7]. It is composed of all the members of the Organisation. Each member has one vote at the annual Conference. The Conference "oversees the implementation" of the Convention and reviews compliance. Decisions are taken by simple majority vote (on questions of procedure) or "as far as possible by consensus" (on matters of substance). If there is no consensus, decisions are taken by a two-thirds majority of members present and voting.
- The Executive Council consists of 41 members. Each state party has the right to serve on the Executive Council in accordance with the principle of rotation, for a term of two years.

[5] CWC, Article II, Definitions and Criteria.

[6] CWC Annex I A. Guidelines for Schedules for Chemicals.

[7] CWC Article VIII. The Organisation, B. The Conference of the States Parties.

Members are grouped by region[8] and with due regard being paid to "the importance of chemical industry, as well as to political and security interests". The Council has the power to conclude agreements with states and other international organisations and "approve agreements or arrangements relating to the implementation of verification activities, negotiated by the Technical Secretariat with States Parties". Where there is abuse of the rights provided for under the Convention, the Executive Council has the responsibility "in cases of particular gravity or urgency to bring the issue or the matter directly to the attention of the United Nations General Assembly and the United Nations Security Council"[9].

– The Technical Secretariat "shall carry out the verification measures provided for in this Convention"[10]. It also provides the necessary technical assistance to states parties in implementing the provisions of the Convention "including evaluation of scheduled and unscheduled chemicals". The Technical Secretariat also includes a Consultative Scientific Council, made up of independent experts, which proffers specialist opinions in areas of interest to the Convention. The Technical Secretariat also coordinates "the establishment and maintenance of permanent stockpiles of emergency and humanitarian assistance" for protection against chemical weapons.

18. Verification of compliance with the provisions of the CWC is essentially carried out though a system of declarations and a fairly comprehensive inspection regime. Each state party must submit to the Organisation for the Prohibition of Chemical Weapons, not later than 30 days after the Convention enters into force for it, a declaration stating the location, aggregate quantity and detailed inventory of the chemical weapons it owns or possesses or owned by another state and located in any place under its own jurisdiction or control. Such declarations cover both direct and indirect transfers of chemical weapons, old or abandoned weapons and facilities (including those formerly under its ownership or possession at any time since 1 January 1946). States must also submit a general (national) plan for the destruction of any chemical weapons and for the destruction, closure or conversion of any chemical production facility it owns or possesses.

19. Inspections take place on site for the purpose of verification of declarations and to guarantee that states parties' chemicals activities comply with the provisions of the Convention. In the event of doubts being raised by states parties or the OPCW, challenge inspections may be requested[11]. The inspections are supplemented by monitoring instruments on site. The OPCW also conducts investigations in cases where a possible use of chemical weapons has been notified. Since the entry into force of the CWC, over 1 000 inspections have taken place in 49 states parties.

20. Chemical production facilities not prohibited under the CWC are also subject to inspection although the framework is more flexible, depending on the Schedule under which the chemicals produced fall. In order to take account too of industrial requirements and the fact that in many cases the companies concerned are private (ranging in scale from small firms to multinational companies) the OPCW enters into facility agreements with the owners of the sites for inspection, setting out the arrangements for such inspections.

21. An innovative aspect of the CWC is the existence of machinery for assistance and protection against chemical weapons. The production of chemical weapons other than complex systems such as binary weapons are fairly easy to develop, as compared with nuclear or biological weapons. Recourse to such arms, as Iraq had in the war against Iran or against Kurdish armed rebels, seems quite possible in the absence of a major retaliatory capability. Their effect is immediate and devastating. The problem also arises in the event of an accident in a production facility or a chemical weapons storage site pending destruction.

[8] Africa, Asia, Latin America and the Caribbean, Western European and other States, Eastern Europe plus one state party designated consecutively by states parties located in the regions of Asia and Latin America and the Caribbean.

[9] CWC Article VIII, The Organisation, C. The Executive Council.

[10] CWC Article VIII, The Organisation, D. The Technical Secretariat.

[11] The Executive Council may decide against such inspections at the request of three-quarters of its membership.

22. This assistance clause[12] provides for "coordination and delivery to States Parties of protection against chemical weapons including *inter alia* the following: detection equipment and alarm systems; protective equipment; decontamination equipment and decontaminants; medical antidotes and treatments; and advice on any of these protective measures". This assumes also that the parties can carry out research on chemical weapons and produce or procure such protective equipment, which is explicitly recognised as a legitimate activity by the Convention.

23. Information exchange and chemical weapons materials and technology transfers for the purposes of legitimate research could give rise, directly or indirectly, to proliferation, which is also dealt with under the CWC. Discussion of this issue in the past caused differences between two informal groups of states, the Australia Group[13] and the Group of 21 UN Disarmament Conference non-aligned states, with the latter accusing the former of wanting to maintain its technological edge (and the economic benefits thereof) for itself. The CWC establishes the principle of free movement of chemicals, equipment and information consistent with the object and purpose of the Convention[14]. Exchanges with non-member states are prohibited for Schedule 1 and 2 chemicals and end-user and end-use certificates are required for Schedule 3 chemicals.

3. Topical issues for the First Review Conference in 2003

24. Since 1997, implementation of the CWC has proceeded satisfactorily, both in terms of the degree of compliance by states parties and OPCW performance in coordinating the task of destroying arms and installations. The Convention shattered the wall of secrecy surrounding the majority of chemical weapons programmes and considerably increased transparency in this area.

25. The declaration system, which could be improved further, made it possible to understand the "state of the world" in relation to chemical weapons: four states declared that they held chemical weapons (CWs) – South Korea, the United States, India and the Russian Federation – totalling 69 000 tonnes of declared stockpiles and 8 400 000 munitions and containers: 11 states have declared (current or past) ownership of production facilities – Bosnia and Herzegovina, the People's Republic of China (PRC), South Korea, the United States, France, India, Iran, Japan, the Russian Federation, the United Kingdom and the Yugoslav Federation.

26. With 143 states parties, including the five members of the UN Security Council, of a total of 174 signatories, the CWC could be considered a total success in the field of armaments control, were it not for the fact that among non-members[15], five states at least have chemical weapons capabilities, two of them in the Middle East (Egypt and Syria), the third on the southern coast of the Mediterranean (Libya) and the fourth in Asia (Korean Democratic Republic). To these might also be added Iraq, where the destruction of chemical weapons and installations was supervised by the United Nations Special Commission for the disarmament of Iraq, better known as UNSCOM, until December 1998. Since then, the state of Iraq's albeit diminished capabilities remains an unknown quantity. The attempt to obtain those states' accession has proved an essential factor, not only in ensuring that the threat from chemical weapons is removed, but also for the overall security of those regions.

27. Once stocks and installations had been identified, the problem arose of their destruction within the required time limits. The most worrying situation was that of the Russian Federation, which had declared stockpiles of 40 000 tonnes, 24 production and research facilities and seven storage sites. At the time of signature of the CWC, Russia had only one mobile facility for chemical weapons destruction and a single dedicated staff training centre. Attempts to construct fixed destruction facilities ran up against local opposition in the planned areas, preventing their being set up. On 21 March 1996, the Federal Government approved a plan to eliminate chemical weapons involving their destruction at storage sites. Given the political and economic context of the time, this was doomed to failure, since it implied the construction of seven facilities in six different regions.

[12] CWC Article X, Assistance and Protection against Chemical Weapons.

[13] Formed in 1984 at a meeting held in the Australian Embassy in Paris, this group today comprises 30 states. Its aim is to restrict proliferation of BC weapons.

[14] CWC Article XI, Economic and Technological Development.

[15] Angola, Belize, Egypt, Iraq, North Korea, Libya, Somalia and Syria.

28. It was not until April 1997 that a law governing the elimination of chemical weapons was adopted as a first step towards ratification by Russia of the CWC, but it included a provision which subsequently proved to be the source of considerable difficulties. To be certain of winning the support of the local authorities, the law provided for the building of facilities for the destruction of chemical weapons to be accompanied by the initiation of social infrastructure projects (hospitals, roads, electrification, housing). The total cost of the project was estimated at 6 billion dollars, over 10 years. During the debates on ratification of the CWC, three questions were raised: the difficulty of providing economic support for the measures required for implementation of the Convention, the need for international financial assistance that would be adequate to meet requirements and the fact that the destruction of stockpiles and facilities would cost less outside the framework of the Convention than within it (because of the requirement to meet the cost of verification missions and contributions to the OPCW budget). Ratification by the Duma took place on 31 October and by the Federation Council on 5 November.

29. The ratification act nevertheless contained a clause, Article 4, providing that Russia could withdraw from the CWC if international assistance proved inadequate, if destruction were likely to cause serious environmental damage and if the OPCW failed to approve an extension of the initial deadline of two years for the destruction of 1% of existing stockpiles. This extension was granted but proved even more problematic in that it compelled Russia to destroy 20% of its chemical weapons by the year 2002. The crisis in the economy and devaluation of the rouble in 1998, the inadequacy of international assistance and the difficulty of determining which authorities would be responsible for the destruction programme, together with the political changes, both internal and in terms of foreign policy, that took place in 1999 and 2000 (political crisis, replacement of Boris Yeltsin with Vladimir Putin, crisis with NATO over Kosovo, war in Chechnya, formation of a new parliament and consolidation of new Russian power structures) considerably delayed Russia's destruction of chemical weapons, with the risks that this situation entailed internally (threat of accidents and contamination of employees and the wider community) and for international security.

30. On 5 July 2001, the Federal Government issued a resolution (decree) relating to the destruction of stocks of chemical weapons in the Russian Federation. The resolution updates the text for the federal special programme adopted in 1996 and provides for[16];

- "the construction of two full-scale chemical weapons destruction complexes outside the town of Shchuch'ye (Kurgan Region) and Kambarka (Udmart Republic) instead of the seven planned previously, and for the completion of the destruction of chemical weapons stored at those facilities by the year 2011";
- the completion of construction of the chemical weapons destruction facility outside the village of Gorny (Saratov Region) and destruction of the weapons stored there by the year 2005;
- the setting up of small-scale facilities for the detoxification of chemical weapons stored at the depots of the village of Maradykovsky (Kirov Region) in the town of Pochep (Bryansk Region) and in the village of Leonidovka (Penza Region), for destruction or disposal of detoxification products at the chemical industry enterprises before the year 2012;
- destruction of chemical weapons stored in the town of Kizner (Udmurt Republic), at the chemical weapons destruction complex in the town of Shchuch'ye before the year 2012".

The Russian Government has also set up a timetable for the destruction of 1% of the total stock by 2003, 20% by 2007, 45% by 2008 and the remainder by 2012.

31. In the United States, destruction of weapons and facilities has been making satisfactory progress (destruction of 22% of stockpiles by March 2001) but verification of chemicals sector activity raised

[16] Federal Government Resolution No 510: "On making amendments and additions to the resolution by the government of the Russian Federation of March 21, 1996 (No 305) on Approving the Federal Special Program 'Chemical weapons stockpiles destruction in the Russian Federation'", Moscow, 5 July 2001. http://www.armscontrol.org/

difficulties and, to an extent, created a precedent that could be invoked by other states to circumvent the provisions of the Convention. Extension of the implementation of the provisions of the CWC to "civilian" activities required the adoption of specific legislation in this regard by the majority of states. Ratification by the US Senate took place on 24 April 1997, by 71 votes in favour to 26 against. Legislative implementation of the provisions of the Convention gave rise to three American "exemptions": the US President could reject on-site inspection on grounds of a threat to national security, no samples taken in the United States during an inspection were to be removed outside US territory for analysis abroad and the list of industrial facilities that had to declare their use of the various chemicals constituting proliferation risks, contained in the Schedules established by the CWC, was drawn up according to fairly restrictive criteria.

32. Had other states invoked these same provisions, there would have been adverse political consequences for the future implementation of the Convention, especially in a context where the United States, for its part, was conducting an aggressive anti-proliferation policy, to the point of threatening armed action (viz. the example of Iraq and missile bombardment of a pharmaceuticals factory in Sudan, in August 1998[17]). The analysis of samples by individual states, without recourse to a "neutral" international analysis, can also give rise to challenge and call compliance of a state party with the provisions of the Convention into question. It is also possible for other states to use the criteria covering facilities to camouflage a part of their chemical weapons activities taking place on civilian sites. Submission of a declaration on civilian chemical installations was also delayed for domestic policy reasons, until May 2000. The absence of that declaration beyond the notified time limit (not later than 30 days from the entry into force of the CWC), regarded technically as non compliance, delayed inspections of the American chemical industry and led to protest *inter alia* from Germany, China, France and Italy[18].

33. Apart from the difficulties encountered in Russia and the United States in implementing the CWC, other problems have piled up since 1997 which have weakened the effectiveness of the Convention. A relatively high number of states parties (approximately one third of the 143) either have not filed declarations of their weapons and facilities or have not filed complete declarations, states parties' contributions to the OPCW budget and to the costs of verification missions undertaken by the OPCW are not always paid regularly and such arrears restrict the work of the Organisation. Recourse to the sanctions provided for in such cases (loss of voting rights, for example) has not been had to date. Similarly, states parties must set up a National Authority, as their point of contact with the OPCW, which many states have not yet done (106 declarations at the end of 2000).

34. Failure to carry out challenge inspections called for where suspicion has arisen of the existence of activities in violation of the CWC also weakens the inspection regime and creates tensions between states parties that might be detrimental to overall coherence. Such is the case in respect of accusations brought by the United States against Iran, which according to American sources has a secret programme for the manufacture of chemical weapons. The system of challenge inspections was devised precisely to defuse this type of situation and avoid recourse to unilateral action which could have serious consequences for international stability and security.

35. Another subject of concern not covered by the provisions of the Convention[19] is the problem raised in the medium and longer term by old and abandoned chemical weapons that were dumped at sea, particularly after the second world war. Although this practice has not led to major problems to date, cases of pollution resulting from toxic agents rising to the surface have been detected in the Baltic Sea and in the shallower reaches of the Sea of Japan. Some areas are barred to fishing for that reason. Over the passage of time, corrosion of containers increases the risk, and the instances of

[17] The United States justified this at the time by the fact that the plant belonged to Osama bin Laden, who was implicated in attacks against the United States embassies in Kenya and Tanzania and that samples taken from the facility revealed traces of a precursor used for manufacturing VX nerve gases.

[18] "The Chemical Weapons Convention: Implementation, Challenges and Solutions", Jonathon B. Tucker; "US implementation of the CWC", Amy E. Smithson: April 2001; Center for non-proliferation studies, Monterey Institute of International Affairs"; http://www.cns.miis.edu/

[19] The CWC forbids recourse to this method of eliminating chemical weapons.

leakage, and currents can carry old ordinance towards coasts and beaches. Among chemical agents used as offensive weapons, mustard gas is the one that causes most problems for, unlike nerve gases, it does not dissolve on contact with water[20]. This is a complex issue and one that for the moment remains unresolved, with opinion divided about the effects on the marine environment; also because there is no knowing precisely how much ordinance or what quantities of toxic chemicals are still present in the ocean, or in rivers and lakes (in Russia and the United States for example) or where such dumps are located.

36. The Chemical Weapons Review Conference due to be held in May 2003 will have the onerous task of examining those problems and finding solutions to them that bolster the Convention's effectiveness while ensuring that states parties, especially "declared chemical powers", enforce it. There must also be an effort to encourage non-party states with production facilities (and stockpiles of chemical weapons), notably in the Middle East, the Mediterranean and Asia, to accede. Greater oversight by the OPCW needs to be exercised over technological progress in chemicals, to avoid the appearance of non-scheduled chemicals, falling outside the Schedules established under the CWC. The search for a satisfactory solution to meet the Organisation's budgetary requirements has to be vigorously pursued, especially by taking account of the needs of certain states parties to meet their obligations in respect of the destruction of weapons and facilities.

III. The biological weapons control regime

37. There is a case for regarding biological weapons, like chemical weapons as terror weapons, with still more dreadful effects. They are the more worrying given that their effects can spread throughout an entire human community or though animal and plant ecosystems from a single infection site. Incubation periods may be short and effects long-lasting. An earlier example of the involuntary use of biological agents to devastating effect was the introduction of diseases originating in Europe, and their causes, among the native peoples of the American continent. We are now aware of forms of biological "aggression" with disquieting prognoses in terms of public heath and birth rates in the medium and longer term (which also have security and defence implications), among them for example, HIV (human immunodeficiency virus), BSE (bovine spongiform encephalitis) or the appearance of new forms of tuberculosis, resistant to existing antibiotics.

38. Unlike chemical weapons, biological weapons have not been used on any significant scale in 20th century conflicts but they have been the subject of intensive research and reached a high degree of development and sophistication. There is practically no information or means of verification of what does in fact exist in this area. The biological weapons control regime came into being in 1925, with the Geneva Protocol[21], referred to in connection with chemical weapons, which also has a section on bacteriological warfare methods.

39. The 1920s and 1930s were also periods where knowledge and research in the fields of biology and the pharmaceutical industry, made great strides with discoveries with possible military applications. Among the powers of the period, Japan invested heavily in research into biological agents and their military capability. In 1932, experiments were carried out in occupied Manchuria and in 1936 a special unit, Unit 731, with responsibility for water purification, was set up under a military doctor, General Shiro Ishii. A test centre was built outside the town of Harbin, consisting of a hundred or so buildings over a surface area of some six square kilometres, where, between 1936 and 1945, biological warfare experiments were carried out on thousands of civilians and prisoners of war (including Britons and Americans)[22]. In Europe, Germany and the United Kingdom also developed research programmes for biological weapons. Medical experiments were carried out by Germany on prisoners in

[20] "Coping with surplus weapons: a priority for conversion research and policy – Chapter 3: the disposal of surplus chemical weapons", Maria Bowers, Bonn International Center for Conversion (BICC); 26 June 2001, www.bicc.de

[21] The full title is "Protocol for the prohibition of the use in war of asphyxiating, poisonous and other gases, and of bacteriological methods of warfare".

[22] The large majority were Chinese. The number of victims was estimated in tens of thousands; http://www.cnd.org/.

concentration camps throughout the war, in order to observe the response of the human organism to biological agents (cholera and typhus). However the most striking example of the dangerous nature of such weapons is the inheritance of Gruinard Island, off the coast of Scotland, which is still contaminated with anthrax residue used in the experiments of the 1930s and 1940s.

40. At the end of the second world war, research continued with the input of information obtained from the losing side. The priority given by the post-war powers to acquiring and improving nuclear weapons pushed biological weapons development into the background. Programmes continued but tended to be directed rather to finding defences (vaccines) against the use of known biological agents. By the end of the 1960s, experiments and simulations in this field showed that while this aspect was the more important, the offensive use of biological weapons would have consequences that were unseen and difficult to control in the longer run. This finding led to a statement from US President Richard Nixon, on 25 November 1969, to the effect that the United States would unconditionally desist from the use and production of biological weapons.

41. This announcement, followed by similar declarations from other states, in particular Canada, the United Kingdom and Sweden, contributed decisively to the resumption of discussions on the need for a convention prohibiting biological weapons to be drawn up in the framework of the United Nations Disarmament Commission. On 5 August 1971, the United States and the USSR submitted two identical versions of a text for approval. This text was adopted by the General Assembly and, on 10 April 1972, the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction was opened for signature in London, Moscow and Washington. On 26 March 1975, the Biological Weapons Convention (BWC) entered into force[23]. Today there are 144 signatory states (as compared with 46 in 1972).

42. Throughout the 26 years of its existence, the BWC has been implemented more or less consistently. There has been one proven case of flagrant violation of its provisions (by the USSR) and a more or less clandestine proliferation of research and development programmes contrary to its objectives, in particular in South Africa (during the apartheid regime) and Iraq (whose programme was thoroughly updated following the Gulf war). Research for defensive purposes continues and the advent of new biological, bio-engineering and genetics technologies has meant the opening up of further possibilities in this sphere. The recent failure of the discussions regarding a draft protocol concerning the setting up of a verification and inspection regime to reinforce the BWC is also symptomatic of the weakness of the present biological weapons control regime.

1. The Biological Weapons Convention

43. The main provision of the BWC is Article 1 (of 15) which states:

44. “Each State Party to this Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain;

> 1. Microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes;
>
> 2. Weapons, equipment or other means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.”

The general scope of this article is central to the Convention since it not only covers agents that exist at the time of signature but applies also to any subsequent discovery that might be made in the area of biological weapons. The BWC therefore always remains abreast of contemporary biological and bio-technological research without need of in-depth revision of the text.

45. Other provisions, also taken up later when drafting the Chemical Weapons Convention, remain relevant: namely Articles III, IV, VII and X.

[23] Following the filing of instruments of ratification by the required 22 states.

46. Article III requires the states parties "not to transfer to any recipient whatsoever, directly or indirectly, and not in any way to assist, encourage or induce any state, group of states or international organisations to manufacture or otherwise acquire any of the agents, toxins, weapons, equipment or means of delivery specified in Article I of the Convention".

47. This provision, which was not always applied until the final decade of the twentieth century, is today important for combating the proliferation of biological weapons and technologies covered by the BWC. At the time of signature of the Convention, the developed countries of the West or the socialist bloc had a virtual monopoly over biological weapons, with a few third world exceptions such as the People's Republic of China or India. The situation changed in the 1980s, as the case of Iraq goes to show. Biological weapons, whose research and production are easier to camouflage under cover of medical or pharmaceutical research, are an attractive alternative compared to the problems of acquiring nuclear weapons.

48. Article IV provides that:

49. "Each State Party to this Convention shall, in accordance with its constitutional processes, take any necessary measures to prohibit and prevent the development, production, stockpiling, acquisition, or retention of the agents, toxins, weapons, equipment and means of delivery specified in Article I of the Convention, within the territory of such State, under its jurisdiction or its control anywhere."

50. The application of this provision is tantamount to writing the obligations arising out of the Convention into domestic law and represents a clear political indication of a state's resolve to make an active contribution to prohibiting biological weapons once and for all. This is a parameter by which compliance with the BWC can be measured and, in the absence of a verification and external inspection regime, paves the way towards the creation of governmental or independent supervisory and monitoring agencies and the imposition of penalties in the event of non compliance. For example, in the United Kingdom those found guilty of violating the legislation governing biological weapons may be sentenced to life imprisonment[24].

51. Article VII is an assistance clause whereby:

52. "Each State Party to this Convention undertakes to provide or support assistance, in accordance with the United Nations Charter, to any Party to the Convention which so requests, if the Security Council decides that such Party has been exposed to danger as a result of violation of the Convention. "

53. Fortunately the above provision has never had to be applied in practice to date, but it still has relevance since an accident could happen, such as that which occurred in the Sverdlovsk region[25], in April 1979, leading to 64 human deaths as well as deaths of livestock. The true cause was revealed by the Russian authorities only in 1992-1993 and confirmed by an international commission of enquiry, as being the accidental release of anthrax outside a biological weapons research and development facility. This accident gave rise to requests for bilateral consultation under Article V dealing with consultation and cooperation "in solving any problems which may arise in relation to the objective of, or in the application of the provisions of, the Convention".

54. Article X, to which a similar provision is found in the Chemical Weapons Convention, deals with the need to maintain cooperation and exchange in the field of biology and biotechnology for peaceful purposes and in order to avoid hampering the economic or technological development of states parties to the Convention.

55. In 1972, very few states had a really effective research, development and production capability for biological weapons. In the 1980s and subsequently, technologies in all fields for both civilian and military use became increasingly widespread, fuelled by certain states' efforts to arm themselves – in the Near and Middle East (Iraq, Iran and Egypt), in Asia (North and South Korea, India, Pakistan and

[24] Biological Weapons Act, 8 February 1974.

[25] Now Ekaterinburg in the Urals.

Taiwan) and in Latin America (Argentina, Brazil and Chile). South Africa and Israel aim to acquire effective nuclear, biological and chemical warfare capabilities.

56. To counter this trend, the United States and its European and Asian allies set up informal structures for technology control and transfer: the Nuclear Suppliers Group, the Missile Technology Control Regime (MTCR), the Australia Group and the Wassenaar Arrangement[26]. They deal primarily with military technologies but also with civilian technologies with military applications, and this is perceived by a number of influential developing countries[27] as a means of allowing developed states to maintain their technological dominance and prevent the emergence of foreign competition. In the present economic and technological context, Article X can help to play down such fears by encouraging information and technology exchange for peaceful (and controllable) ends, which has one major advantage, that of greater transparency as far as the state of play in research and development in the field of biology and biotechnologies in any given state party is concerned.

2. The development of BWC: 1975-2001

57. Article XII of the Convention sets out the principle of a Conference being organised every five years "to review the operation of the Convention, with a view to assuring that the purposes of the preamble and the provisions of the Convention (…) are being realised. Such review shall take into account any new scientific and technological developments relevant to the Convention". These conferences, the first of which is to take place in Geneva, Switzerland, from 19 November to 7 December 2001, will provide a round-up of how implementation of the BWC is progressing and bring it into line with developments within its remit. It also provides an opportunity for the states parties to exchange information and arrive at political compromises leading to resolution of problems connected with monitoring and compliance with the provisions of the Convention.

58. The first Conference took place in the early 1980s, at a difficult juncture of the cold war. In 1979, the Sverdlovsk accident confirmed American reservations about compliance with the BWC on the part of the USSR. The latter also suffered the political backlash of the West's and non-aligned states' condemnation of its military intervention in Afghanistan. Meanwhile a new American Administration, under Ronald Reagan, with a somewhat hostile attitude to the USSR, had just come to power.

59. Nevertheless, at the first Conference, modest but significant progress was achieved by agreeing to continue to examine the agreement outside the single Conference provided for under Article XII, to clarify the situation regarding biological weapons in the states parties by means of declarations – whether they held such weapons, had they destroyed them in accordance with Article II, or had they ever possessed them? – to exchange information for consultative purposes on the national legislation introduced to ensure compliance with the BWC within the framework of the United Nations and to place emphasis on Article V and the consultation and cooperation procedures between states parties. This aspect was developed further at subsequent conferences, and Article V had its first practical application in 1997, at the request of Cuba[28].

60. The second and third conferences, which were held in a better international climate, strengthened the provisions of the Convention and paved the way for the establishment of new procedures for consultation and cooperation on the objectives of the BWC. The 1986 Conference set up a series of confidence-building measures on information exchange about high-security (biological) research laboratories[29], notification of the onset of epidemics of infectious or similar diseases caused by little-known biological agents, publication (including for non-specialist readers) of the results of research into biological weapons and defences against their use and encouragement of scientific exchange and the setting up of research projects among states parties, in areas that fall within the Convention.

[26] The Wassenaar Arrangement (WA) to which 33 states are party is the first global multilateral arrangement on export controls for conventional weapons and sensitive dual-use goods and technologies. It took effect in September 1996; http://www.wassenaar.org/

[27] In particular the Group of 21 UN Disarmament Conference non aligned states

[28] After the discovery in December 1996 of an infestation of *thrips palmi* in the island's crops.

[29] There are four ascending levels of security, depending on the degree of harm the biological agent can inflict.

61. The third conference (1991) took place in an international environment which favoured strengthening the provisions of the BWC, especially after the revelations regarding Iraq's biological weapons programme. The cold war was also coming to an end and the prospects for disarmament arising out of armaments control regimes were brighter. New confidence-building measures were introduced consisting of declarations of earlier activity (from 1946) in the field of research and development of biological weapons, or of defences against them, and declarations of vaccine manufacturing facilities (where dangerous biological agents could be stockpiled, handled and modified). This Conference also marked the start of efforts on the part of certain states parties to set up institutional machinery for verifying the implementation of the Convention.

62. To that end, a special *ad hoc* group of government experts, known as VEREX, was formed. The Group was given the task of identifying and evaluating measures for verifying compliance with the provisions of the Convention from a scientific and technical point of view. After four working meetings from 1992 to1993, VEREX submitted a final report to the states parties at a Special Conference in 1994.

63. The final report sets out 21 possible verification measures, both on and off-site, in the areas of development, procurement or production and storage of biological agents. Off-site measures include data exchange, information monitoring, remote sensing and inspections. Exchange visits and information exchange and continuous oversight are three categories suggested for on-site verification of activities. The Special Conference took note of the final report and decided to set up a new group, the Ad Hoc Group of States Parties, to "consider appropriate measures, including possible verification measures and draft proposals to strengthen the Convention"[30].

64. The Fourth Conference, in 1996, widened the scope of the Convention to present and future discoveries in the fields of microbiology, biotechnology, molecular biology, genetic engineering and to applications resulting from studies of the human genome – all sectors which are thriving at present and giving rise to important scientific and ethical debates at national and international level. The Conference was also marked by persistent divergences between states parties over ways of strengthening the Convention, particularly in regard to the content of a special protocol to the Convention to deal with verification machinery. An absence of consensus prevented the Ad Hoc Group from submitting the draft of the future legally binding instrument to improve compliance and the application of the provisions of the Convention, in time for the Conference. The draft, intended to be adopted by consensus, is to be submitted for scrutiny by the states parties at the 2001 Conference.

65. In July 1997, a draft protocol to the Convention was circulated for discussion among the states parties and an all but final version adopted by the members of the Ad Hoc Group in February 2000, at the Group's 22nd Session. On 30 March 2001, Group Chairman, Ambassador Tibor Tóth of Hungary submitted a draft based on the version agreed in 2000, which had been the subject of intense discussion at the 23rd session (23 April-11 May 2001). This draft protocol contained 30 clauses, based on and amplifying the main provisions of the BWC. Provision was also made for setting up an organisation consisting of a Conference of States Parties, an Executive Council and a Technical Secretariat. The system of declarations by states parties has been strengthened by a fairly substantial verification regime which will be complicated to implement given the special nature of biological, biotechnological and genetic research and production. The protocol also provided for the setting up, within each state party of national implementation measures, and the appointment of national authorities to be the contact points for the future organisation and the other states parties[31].

66. The American negotiators objected to the draft protocol right from the start and, on 21 May, the possibility of the United States rejecting it was reported in the *New York Times*[32]. The article referred to a "confidential review" prepared by the various government agencies concerned, in consultation

[30] "Consideration of the work of the Ad Hoc Group established by the Special Conference in 1994", Final Declaration of the Fourth Conference (25 November-6 December 1996); http://www.unog.ch/ .

[31] Executive Summary of the Chairman's text: http://www.armscontrol.org/.

[32] "US germ warfare review faults plan on enforcement", *The New York Times*, 20 May 2001 http://www.nytimes.com.

with representatives of the industry, recommending to the American Administration that it should not accept the draft as it stood. The main reason given was that "the current version of the protocol would be inefficient in stopping cheating, and that all its deficiencies could not be remedied by the negotiating deadline".

67. This position was eventually confirmed officially in a statement from the head of the American Delegation to the Ad Hoc Group, Ambassador Donald Mahley, in Geneva on 25 July 2001. The US refusal was based on the following considerations:

- "the inherent difficulty of crafting a mechanism suitable to address the unique biological weapons threat. The traditional approach that has worked well for many other types of weapons is not a workable structure for biological weapons;
- the draft Protocol will not improve our ability to verify BWC compliance. It will not enhance our confidence in compliance and will do little to deter those countries seeking to develop biological weapons. In our assessment, the draft Protocol would put national security and confidential business information at risk;
- the mechanisms envisioned for the Protocol would not achieve their objectives, (…) no modification of them would allow them to achieve their objectives, and (…) trying to do more would simply raise the risk to legitimate United States activities (…)[33].

68. This stance had the effect of halting the work of the Ad Hoc Group on the text of the draft protocol. On 3 August 2001, the Group decided to continue with the drafting of a report on its six and a half years' of work and to explore new approaches for strengthening the Convention, with a view to submitting them to the 5th Conference, to take place in late 2001. By 18 August, the work of the 24th session of the Ad Hoc Group was completed without any major progress having been made on the matter of strengthening the Convention, although there was agreement that "an effective legally-binding instrument agreed through multilateral negotiations undertaken in the framework of the Convention will strengthen the Convention"[34]. It is however probable that, following the terror attacks in the United States on 11 September 2001 and in the context of measures to counter the possible threat of bio-terrorism, new discussions may take place, in the months to come, on strengthening the provisions of the BWC by setting up verification and monitoring machinery[35].

3. The difficulties in applying the Biological Weapons Convention

69. The text of the Convention is in part the reflection of its time, which is that of that of the cold war. Its clauses are drafted in fairly general terms and there is reasonably wide flexibility as regards its application. It is virtually a gentlemen's agreement where states freely commit themselves not to develop, transfer, procure or use biological weapons and to destroy those that they hold. There is no provision for any verification or inspection system, there is no executive body. In point of fact it was to take over 20 years for the BWC again to come to the fore, with the present discussions on conventional and non-conventional weapons control regimes.

70. Obviously, down the years the BWC has contributed, through its review conferences and by setting up *ad hoc* and permanent working groups, to creating greater transparency in the field of biological weapons. It has also shed light on the programmes that have existed at particular times for monitoring proliferation at least (since it has not been possible to prevent it totally or to control it) and provided a measure of the risk caused by accidents in which biological agents have been involved. There have been numerous cases of non-compliance with the Convention, but even in the most serious

[33] Statement by the United States to the Ad Hoc Group of Biological Weapons Convention States Parties. Geneva 25 July 2001; http://www.usinfo.state.gov/.

[34] BWC Protocol Bulletin, 20 August 2001: "AHG stumbles on its report – more struggles predicted" Jenni Rissanen; The Acronym Institute; http://www.acronym.org.uk/

[35] Opinion in favour of a review of the Administration's earlier position has made itself felt even more strongly since the attacks on 11 September; "America's Sovereignty in a New World", Robert Wright, The New York Times, 24 September 2001; http://www.nytimes.com and "US, Europeans resume talks on Bioweapons", *USA Today*, 23 October 2001; http://www.usatoday.com .

of these – the continuation of the Soviet programme for research into and production of biological weapons, the Iraqi biological weapons' programme and the South African "Coast" project – its existence has not been called into question by the signatory powers. The three above examples serve to illustrate the difficulties encountered in applying the Convention in the absence of more binding rules and an objective and effective verification regime.

(a) Biopreparat and the Soviet military-biological inheritance

71. The Sverdlovsk accident in 1979 confirmed United States suspicions that the USSR was pursuing an active research policy into biological weapons. Only in the 1990s did the extent of this research become public knowledge when some light was cast on advances made in the field and discoveries resulting from it. In 1989, a Soviet expert, Vladimir Pasechnik, asked for political asylum in the United Kingdom and gave information regarding the USSR's military-biological complex. This intelligence was confirmed, three years later, by another scientist by the name of Kanatjan Alibekov[36] who left for the United States in 1992. This evidence and the relative openness of the political authorities in the Russian Federation under former President Boris Yeltsin have given us more information as regards the Soviet, then Russian programme post 1992.

72. The USSR, which became a signatory to the Biological Weapons Convention in 1972, has pursued its programme of biological weapons' manufacture for offensive as well as defensive purposes. The military programme was spread around a group of medical, pharmaceutical and biology and biotechnology-related research laboratories and facilities for peaceful use, thus making it legitimate under the BWC. Under the collective name of Biopreparat, the group employed tens of thousands of people, including 9 000 scientists, and was spread over 47 different facilities, among them 18 research institutes, 6 production units and a storage site. Activities of a military nature were camouflaged within this huge network of production and research.

73. When faced with the revelations, the Russian political authorities acknowledged that they were partly true. In 1992, Russian President Boris Yeltsin admitted that the Sverdlovsk accident was the result of accidental contamination by anthrax escaping from a research facility. On 11 April 1992 a presidential decree was issued explicitly forbidding any research on biological weapons which was not for defensive purposes. The budget allocated and the number of staff assigned by Biopreparat were substantially reduced.

74. On 10 and 11 September 1992, a trilateral meeting of the United States, the Russian Federation and the United Kingdom (the depositories of the BWC), took place in Moscow, at the close of which a joint declaration was published recalling the commitments made under the Convention and providing for reciprocal inspections of military and civilian biological facilities, by way of confidence-building measures. Inspections took place between 1993 and 1994 but have since been halted. The United States has also financed cooperation programmes with Russian research institutes for scientific purposes. However, these fell victim to political vicissitudes in the relations between the two states and produced only modest results. It is still not possible today to gain a comprehensive view of the activities of the Russian military-biological complex.

(b) Iraq's biological weapons programme

75. On 3 April 1991, the United Nations' Security Council adopted Resolution 687 setting up the United Nations' Special Committee (UNSCOM) with responsibility for supervising the destruction or elimination of Iraqi biological and chemical weapons and ballistic missiles, and for long-term oversight of that country to ensure compliance with the obligations set out in the Resolution. Although Iraq more or less cooperated with regard to the nuclear, chemical and conventional aspects of its armaments programme, it was evident that there were moves to dissimulate the extent of its biological weapons' programme, culminating finally in a crisis between Iraq and the United Nations in 1998, that led to UNSCOM's departure and its subsequent replacement with a verification mission to the country that is still not in active operation.

[36] Now known under the name of Ken Alibek.

76. Only in 1995 did the facts regarding the Iraqi biological weapons' programme come to light through declarations submitted to UNSCOM by the political and military authorities and also when Saddam Hussein's son-in-law left Iraq for Jordan, accompanied by the director of a biological research and production facility. Documents found subsequently established that the Iraqi programme dated back to 1974 (Iraq signed the BWC in 1972 but did not ratify it until 1991).

77. From 1990 onwards, the programme was intensified and Iraq provided UNSCOM with data about the quantities produced. For example, 84 000 litres of anthrax had been manufactured, more than 8 000 litres of which was suitable for use in bombs or missiles. Other toxins such as botulin, aflatoxin, ricin and gangrene gas were also ready for offensive use. Iraq maintained it had disposed of a total of 182 "biological" munitions, three of which the Commission discovered intact. Six sites were identified as significant components of the biological weapons programme, one of which was destroyed at UNSCOM's request. The halting of inspections at the end of 1998 and the fact that the Iraqi case has now reached stalemate means that, today, no more recent information on the Iraqi programme is available than that obtained up to 1998 and the likelihood is that developments are continuing beyond UN control.

(c) The "Coast" project and Doctor Death

78. From 1981 to 1993, South Africa, then under the political and military control of the white minority (under the apartheid system) set up and developed a chemical and biological weapons research and production programme which was both defensive and offensive. This was known as the "Coast" project. Its existence was made public in 1998 through the work of the Truth and Reconciliation Commission on crimes and human rights violations committed under the apartheid regime. The director of the "Coast" programme, Dr Wouter Basson[37], gave testimony before the Commission after being arrested in 1997 and charged, in connection with another matter, with conspiracy with intent to commit murder, perversion of the course of justice and fraud.

79. A system of commercial firms and production and research facilities was set up to mask the true objectives of the "Coast" project. Apart from research, production and storage of conventional biological agents (anthrax and botulin), the progamme covered other sectors such as genetic engineering, one of the objectives of which was to produce biological agents that could be used solely against the black African population. Others were intended to affect their birth rate, including by means of sterilisation processes of which the victims are not aware. Deadly experiments had also been carried out on prisoners and political dissidents. In 1985 the authorities responsible for "Coast" planned to build a biological weapons' production factory and undertook studies of the types of munitions necessary (bombs, missiles and shells) that could be loaded with biological and chemical agents.

80. One aspect of the programme, about which still very little is known, is the degree of international cooperation (state or private) which the South African authorities received in the field of biological weapons. Through the conferences on biological and chemical weapons, contacts were established with researchers in research institutes in Germany, the United States, Israel, the United Kingdom and Taiwan. Dr Basson's reputation and his status as director of the "Coast" project nevertheless stopped him from gaining entry into the United States in connection with his scientific activities. In 1988 "Coast" reached an impasse for political reasons because of the corruption which surrounded it. Funds allocated to the programme were in part used for personal ends. Research and production continued but in late 1992 the Steyn[38] report revealed the extent of the programme to South African President de Klerk, at the same time making clear that it was intended for offensive use. In early 1993 "Coast" was wound up, documents[39] and materials were destroyed but some questions remain unresolved even today.

[37] Dubbed "Doctor Death" by the South African Press.

[38] Lieutenant General Steyn was the Chief-of-Staff of the South African Armed Forces in 1992.

[39] Doctor Basson left for Libya in 1993 where he became a consultant on anti-chemical and biological defence. Nevertheless he kept a large part of the archives relative to "Coast" from which the Truth and Reconciliation Commission was able to re-establish some of the facts. He is now in South Africa where his trial continues.

IV. Conclusions

81. Biological and chemical weapons are still with us and the threat of their use still present. Progress made since 1925 and the Geneva Protocol to the present day, with the Convention on Biological Weapons and the Convention on Chemical Weapons, have one major advantage: that of preventing use of or making it difficult to conduct research and to produce BC agents for use as weapons of terror or for intimidation or deterrence. Information exchange, bi- or multilateral consultation and assistance clauses help reduce the threat and build confidence between states.

82. If the cause of eliminating all chemical weapons appears to have met with a degree of success both in terms of its political and practical objectives, biological weapons or possible use of biological agents for military or political ends will continue to constitute a threat in years to come – a threat in terms of relations between states and from non-state bodies. The first can be contained by compliance with the Biological Weapons Convention, and continuing discussions and negotiations on strengthening and applying its provisions in the framework of the United Nations or in other multilateral fora like the Australia Group. The second, from being a theoretical possibility only, became a concrete reality with the cases of criminally-inspired contamination with anthrax[40] reported in the United States in October 2001[41].

83. The anthrax cases that appeared there after the attack on 11 September 2001, have once again sparked debate in the national and international media on the threat of chemical and biological weapons, a matter of concern to countries throughout the world. This subject is one that should be dealt with separately by the Defence Committee in the course of its work and which will assume increasing importance in the years to come since states are as yet poorly prepared to deal with the consequences of a chemical or biological attack of even modest proportions.

84. It is not only by reason of their destructive capability that they are of concern, but also because of their medium and long-term effects, namely the political[42], economic and social[43] destabilisation that could ensue from a BC attack. Extremely serious consequences would flow from the use of such means in acts of state terrorism as this would constitute a definite "casus belli", possibly leading to a riposte using non-conventional or conventional weapons, with a very high potential for destruction. Action by "independent" groups is more difficult to restrict as the attacks involving sarin gas committed by members of the Japanese Aum Shinrikyo religious sect in 1994 and 1995 and the mailing of letters and parcels containing anthrax spores in the United States go to show.

85. The response to these and any subsequent threats is to be found at international level – through information exchange, verification of compliance with the treaties and agreements concerned, bilateral and multilateral cooperation and consultation – and at individual state level by setting up appropriate structures to deal with crises involving chemical or biological substances. Research into defensive agents (vaccines, for example) training specialists (civilian and military staff), acquisition or production of suitable special equipment, keeping a close eye on developments in chemical and biological technology are all measures that are necessary in order to react effectively to an accident or limited attack in which those types of substance are involved. Individual states have their own resources but cooperation and international aid in this area are essential since the consequences of a biological attack do not stop at a county's borders.

86. In an unofficial report on the "Health Aspects of Biological and Chemical Weapons" published on 21 September 2001, the World Health Organisation put forward a package of relevant

[40] Naturally-occurring anthrax, not its more lethal military variants, which are also more resistant to available antibodies and vaccines.

[41] On 24 October 2001, 3 anthrax deaths had been recorded and over 50 cases of contamination with anthrax spores. Over 2 000 people are under medical observation. "Anthrax threat takes a wider scope; new cases emerge; some mail halted", *The Washington Post*, 24 October 2001, http://www.washingtonpost.com.

[42] The House of Representatives decided to stop work until the building was declared clear of contamination. The Senate, however, decided to continue working.

[43] The anthrax alert led to delays in postal deliveries, impacting on commercial activity. Fear gripped the public and there were a number of hoax calls, leading to an overload of the health and security services.

recommendations on preventive and reactive measures that could be adopted and implemented in this area[44]:

- "(1) Public health authorities, in close cooperation with other parts of government, should have contingency plans prepared in case of a deliberate release of biological or chemical agents against civilian populations. The plans should be consistent or integral with existing plans that address outbreaks of disease, natural disasters, large-scale industrial or transportation accidents, and terrorist incidents. In accordance with resolution WHA54.14, technical support is available from WHO to member states for developing or strengthening preparedness and response activities against risks posed by biological agents, as an integral part of their emergency management programmes;
- (2) Standard principles of risk management should inform preparedness against deliberate releases of biological or chemical agents, starting with an assessment of the relative priority that should be accorded to such releases in comparison with other dangers to public health in the country concerned;
- (3) A major contribution to preparedness against deliberate releases of biological or chemical agents in most countries can be achieved by strengthening public health infrastructure, particularly for public health surveillance and response;
- (4) Managing the consequences of a deliberate release of biological or chemical agents may demand more resources than are available. International assistance could become essential. Channels for such international assistance are available and should be identified;
- (5) Attention is drawn to the international assistance and support available to all countries which are Member States of specialised organisations such as OPCW (eg. in cases of use or threat of use of chemical weapons and for preparedness planning), and to states parties to the 1972 Biological and Toxin Weapons Convention (e.g. in cases of violation of the Treaty). It is recommended for countries to actively participate in these multilateral regimes."

87. Particular attention should be paid here to the threat of biological attacks. What makes biological weapons more horrific than chemical weapons is the fact of their being linked with what, in scientific parlance, is meant by the idea of "living". Chemical weapons have effects that are limited, measurable and controllable in space and time. Biological agents, whether man-made or created, have few limits if they act in environments which are relatively unprotected. They adapt, mutate and interact with humankind, animals and plants. Teams of journalists and researchers were able to visit the site of Halabja after the Iraqi chemical attack in 1988, but Gruinard Island is closed to human beings even today following tests carried out using anthrax in the 1930s and 1940s.

88. Biological agents can also have lasting effects on agriculture and animals without directly or immediately affecting humankind and lead to effects that lend themselves with difficulty to qualitative or quantitative assessment. "Agricultural warfare" might be a relatively inexpensive way of disorganising farming within a state or a region with the aim of destabilising a government (by creating economic problems), seeking control over markets (by elbowing out competitors) or impacting on financial markets that trade in agricultural products[45]. Such agents also have a productive use, for example against drug cultures, but may (like the fungal pathogens of cocaine or the opium poppy) have undesirable secondary effects[46]. Current examples of damage caused by the action of (natural) biological agents on agriculture are the BSE crisis, swine fever and foot-and-mouth disease which have decimated large swathes of the European Union's livestock, and aggravated the economic

[44] "Health Aspects of Biological and Chemical Weapons"; World Health Organisation; 21 September 2001, http://www.who.int/.

[45] Economic motives were put forward as the explanation when illegal importation of Rabbit Haemorrhagic Disease Virus was discovered in New Zealand in 1997. "Agricultural Biowarfare and Bioterrorism"; Mark Wheelis, November 2000; http://www.fas.org.

[46] Certain states identified as targets for the use of such agents (in the framework of the United Nations anti-drugs programme), such as Colombia, have expressed reservations about their use. "Government report raises doubts about US-backed drug war in Colombia", http://www.abcnews.com/, 2 September 2001.

difficulties of farmers and the food and tourist industries. The cost in terms of human health in the medium and longer term, particularly as far as BSE is concerned, cannot yet be estimated.

89. Another peculiarity of biological weapons and agents is contagion. A bacillus or a virus can be transmitted fairly easily from one individual to another[47] over considerable distances in view of present transport capabilities. For example, in August 1999, a German citizen returning from the Ivory Coast was taken to hospital with symptoms similar to those of Ebola haemorrhagic fever, and was immediately put in quarantine in the isolation wing of the hospital where he was a patient. Severe restrictions were also placed on the medical staff. The patient had contracted the disease in Africa but the symptoms had only appeared on his return. No further contamination ensued because his ailment proved in fact to be a different, non-contagious illness.

90. One of the major dangers that the BWC has attempted to eliminate, through its prohibition on research and development leading to the production of biological weapons, is the creation of agents resistant to vaccine or against which there is no possible cure. So-called "Spanish flu[48]" led to over 20 million deaths worldwide in two successive waves from 1918 to 1919 before suddenly petering out. There was no cure at the time, any more than there is today, if influenza strikes again. It is known that research was done on such agents in the United States and the USSR during the cold war and Ken Alibek is suspected, in his work for Biopreparat, of having helped to develop an anthrax strain four times more powerful than the standard military variant[49].

91. The very real danger constituted by these agents can be illustrated by the massive slaughter in Europe of cattle contaminated by BSE or foot-and-mouth disease, which cannot be saved by existing treatments or vaccines. If the human population were affected, the outcome would be catastrophic for any country concerned. In the American film "Outbreak"[50], the fictional tale of an epidemic produced by an Ebola-type virus, the political and military authorities, faced with the possibility of widespread contagion from an initial site, decide through want of an antidote, to set fire to the entire community originally contaminated.

92. The development of genetics and biotechnologies and their applications also raises new problems in terms of offensive applications, contrary to the objectives of the Biological Weapons Convention. Such technologies can be used to create new agents or strengthen those that already exist, so as to make them more resistant and deadly. Breaking the code of the human genome may pave the way for selective biological agents capable of acting on a specific group of human beings without affecting those around them.

93. The dangers referred to are real, or within the realm of the possible. However, as long as there is compliance with and application of such instruments as the Biological Weapons Convention and the Chemical Weapons Convention, risks will remain fairly limited. There is therefore still cause for optimism about the development of states' policies in this area. In an age of continual and ever present information flows and exchange, development of a biological or chemical arsenal requires a major effort in terms of secrecy and camouflage, both in human and financial terms (need for trained technical staff at an appropriate level, secure facilities, disguised access to biological and chemical agents)[51].

94. There are no 100% guarantees in this area, where civilian and military applications overlap, where private interests (the pharmaceutical industries or biotechnological and biogenetic firms for example) are at times just as powerful as those of states and where technologies are evolving rapidly.

[47] In the case of anthrax infection, cross-contamination between humans is rare except in the cutaneous variety; "Anthrax", centres for Disease Control and Prevention (Atlanta, United States). http://www.cdc.org/

[48] Caused by the influenza virus.

[49] "Concerns renewed about Russia's bio weapons program"; The CBW Chronicle, vol. II, No. 4, May 1998; The Henry L. Stimson Center, http://www.stimson.org/

[50] "Outbreak", 1995, Warner Bros.

[51] See in this connection "Biological attack threat, real but small" Cnn.com, 18 September 2001; "La prolifération des armes biologiques: évaluation de la menace – menaces de prolifération émanant d'acteurs autres que les Etats". Jean Pascal Zanders: Disarmament Forum, UNDIR, 2000, http://www.unog.ch/

International cooperation, information exchange, establishing effective verification regimes, consultation and dialogue are all essential to ensure that the possibilities opened up by the chemical and biological industries remain to our advantage in this new century and that actions or discoveries whose sole objective is to kill and destroy through the use of chemical and biological agents are no more to future generations than tales of history or science fiction.

APPENDIX I

Historical note on chemical weapons

1. The use of chemicals in warfare is a longstanding and well-documented practice. At the time of ancient Greece and Rome, incendiary weapons and wind-borne sulphurous gases were used to attack cities under siege. One such substance was the notorious "Greek Fire" (a toxic and incendiary chemical) which for five centuries constituted Byzantium's secret weapon against the Turks.

2. Prior to the 19th century, there were few legal texts governing the use of such products. The Strasbourg Convention, signed by the French and Germans in 1675, prohibiting the use of odious and treacherous weapons, in this respect set a precedent. In the second half of the century, specifically at The Hague Conference in 1899, a coherent body of law emerged. At that time European nations agreed to limit "the use of projectiles the sole object of which is the diffusion of asphyxiating or deleterious gases". The second conference, held in 1907, widened the scope of such limitation to the use of poisons or poisonous weapons.

3. Nevertheless it was not until after the first world war that the developed countries decided to limit and then forbid the use of chemical weapons in warfare. By the end of the war, there had been a dangerous escalation in the use of toxic chemicals disseminated on land (various types of munitions and artillery shells) and by air (bombs and chemical sprays). Some specialists reckon that if the conflict had continued, it would have turned into a real chemical war.

4. In reaction to that situation and to such dangers the Protocol for the Prohibition for the Use of Asphyxiating, Poisonous or other Gases and of Bacteriological Methods of Warfare was signed in Geneva on 17 June 1925. However most of the signatory states reserved the right to have recourse to such means in cases of legitimate self defence.

5. The inter-war period saw research and development of new toxic agents, in particular, sarin, soman and tabun. Cases involving the use of combat gases were recorded during the Italian campaign in Ethopia and during the Sino-Japanese war. Fortunately, during the second world war, chemical weapons were not used by the major belligerent powers, which would have been a true catastrophe for mankind and the environment, given the lethal powers of the new gases and the quantity of them available.

6. During the cold war, new chemicals, such as the VX nerve gases and binary weapons, appeared in the armoury of East and West alike. Frequent instances of the use of toxic chemicals have been recorded during the conflicts of the period: in Asia (Korea and Vietnam), Africa (Angola and South Africa) and the Middle East (Iran-Iraq) – noteworthy among them that of Agent Orange (an industrial defoliant) in Vietnam and mustard gas, used by the Iraqis against the Iranians.

7. In the post-cold war era, the Gulf war was regarded as a landmark in this respect, since it highlighted the dangers of uncontrolled proliferation of chemical weapons all over the globe, leading responsible major powers to seek to establish effective legal machinery not only to control such weapons but eventually eliminate them altogether. Thus on 13 January 1993, the Convention on the Prohibition of the Development, Production and Stockpiling of Chemical Weapons and on their Destruction was opened for signature in Paris. The Convention, signed by 143 states to date, took effect in 1997.

8. A new danger has appeared in recent years as a result of the use of and toxic chemical substances and weapons by terrorist groups. This was the case in Japan, on 20 March 1995, when a sarin gas attack in the Tokyo subway caused 11 deaths and more than 5 500 people were hurt. This new threat obviously demands a strengthening of existing control regimes (such as the Convention for example) and a search for new solutions to counter the problem.

APPENDIX II

Historical note on biological weapons

1. Biological weapons are, from one point of view, as old as life on earth. In the wars of antiquity right up to the first world war, biological weapons were used on numerous occasions. For example, in 1346, the Tartars used plague-ridden corpses as munitions against a town under siege in Caffa in the Crimea. Another well-documented case was the unleashing of a smallpox epidemic among the Indian tribes who were allies of the French in their war with Britain over disputed Canadian territories.

2. During the first world war plans were made and tests carried out on the use of biological agents against the civilian populations, livestock and agricultural resources of the countries in conflict. For example, German secret agents in the United States inoculated horses and cattle to be sent to the front line in France with disease.

3. In 1925, the Geneva Protocol prohibited the use of bacteriological weapons, even although, at the time, their use was random and consequently relatively less important than that of chemical weapons.

4. In the inter-war period, research continued into this area, notably in the United Kingdom on anthrax. However, one country which carried out highly advanced research in this area was Japan. From 1937 to 1945, in China, Unit 731, under the command of army doctor General Shiro Ishii, was tasked with creating new biological weapons. At the end of the second world war, the results were passed on to the Americans in exchange for an amnesty.

5. The cold war climate tended to favour large-scale biological weapons production and research, particularly in the United States and the USSR, leading on to significant progress in strengthening capability and the development of new biological agents and their use as weapons.

6. In the 1970s, this trend was reversed, with the search for an agreement between the great powers to control and eliminate the threat of biological weapons. Progress made was illustrated by the unilateral declaration by the United States in 1969 to the effect that it would no longer develop and produce biological weapons. On 10 April 1972, the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction was opened for signature, and took effect on 26 March 1975. 144 states have signed to date.

7. Nevertheless, there have been several proven cases of the use of toxic biological agents or accidents caused by them, such as in Sverdlovsk in the USSR in 1979, where a number of fatalities caused by dissemination of anthrax spores into the atmosphere were detected. Between 1975 and 1983 cases of poisoning caused by so-called “yellow rain” were also noted in south-east Asia, in Laos and Cambodia.

8. Notwithstanding the Convention, proliferation of biological weapons programmes, like the “Coast” project in South Africa or the Iraqi programme which was updated after the Gulf war, is still a source of major concern, especially if associated with the threat of terrorism. This issue has not been satisfactorily resolved to date as there is no credible machinery for the control and verification of offensive biological weapons and programmes.

APPENDIX III

Glossary of terms – toxic chemical and biological agents

Aflatoxins: a group of closely related toxic metabolites that are designated mycotoxins. Aflatoxins produce acute necrosis, cirrhosis, and carcinoma. No animal species is resistant to the acute toxic effects of aflatoxins.

Anthrax: an acute infectious disease caused by the spore-forming bacterium *Bacillus anthracis*. Anthrax most commonly occurs in wild and domestic lower vertebrates, but it can also occur in humans when they are exposed. Anthrax is considered to be a potential agent for use in biological warfare.

Binary chemical weapons: use toxic chemicals produced by mixing two compounds immediately before or during use.

Biological warfare: employment in war of micro-organisms to injure or destroy people, animals, or crops; also called germ or bacteriological warfare.

Biosafety level: specific combinations of work practices, safety equipment, and facilities, which are designed to minimise the exposure of workers and the environment to infectious agents.

- Biosafety level 1 applies to agents that do not ordinarily cause human disease.
- Biosafety level 2 is appropriate for agents that can cause human disease, but whose potential for transmission is limited.
- Biosafety level 3 applies to agents that may be transmitted by the respiratory route which can cause serious infection.
- Biosafety level 4 is used for the diagnosis of exotic agents that pose a high risk of life-threatening disease, which may be transmitted by the aerosol route and for which there is no vaccine or therapy.

Blister agents: these agents are released as an oily liquid, and cause large water blisters where they encounter skin. They may also cause severe irritation to the throat and lungs if inhaled. Mustard gas is a blister agent.

Bovine spongiform encephalopathy (BSE): widely known as “mad cow disease”, it is a chronic, degenerative disease affecting the central nervous system of cattle. BSE belongs to the family of diseases known as the transmissible spongiform encephalopathies (TSEs), caused by a transmissible agent which is yet to be fully characterized. A similar disease in humans is Creutzfeldt-Jakob disease.

Chemical warfare: employment in war of incendiaries, poison gases, and other chemical substances.

“Chemical Weapons” mean toxic chemicals and their precursors, except where intended for purposes not prohibited under the Chemical Weapons Convention; munitions and devices, specifically designed to cause death or other harm through the toxic properties of those toxic chemicals, which would be released as a result of the employment of such munitions and devices; any equipment specifically designed for use directly in connection with them.

Choking agents: these can be delivered as a gas or a liquid and operate by causing a build-up of fluids in the lungs which then suffocates the victim. Phosgene and chlorine are choking agents.

Cholera: acute, diarrhoeal illness caused by infection of the intestine with the bacterium *vibrio cholerae*. It can be severe. The disease can spread rapidly in areas with inadequate treatment of sewage and drinking water.

Classical swine fever: highly contagious viral disease of swine. Countries that experience outbreaks may suffer heavy losses.

Creutzfeldt-Jakob disease (CJD): a fatal, human brain illness with genetic or unknown causes, appears in one person in a million per year.

Defoliating agent: a chemical which causes trees, shrubs, and other plants to shed their leaves prematurely.

Ebola Haemorrhagic Fever: severe, often-fatal disease caused by infection with Ebola virus that has appeared sporadically since its initial recognition in 1976.

Epizootic: an outbreak or epidemic of disease in animal populations.

Foot and mouth disease (FMD): a devastating disease of livestock. All species of cloven-hoofed animals are susceptible and the disease is extremely contagious. Financial losses as a result of FMD can be significant.

Gaseous gangrene: an infectious disease caused by germs. Rapid onset of myonecrosis, gas production and sepsis are the hallmarks of this disease.

Human Immuno-deficiency Virus (HIV): the virus that causes Acquired Immune Deficiency Syndrome (AIDS). By killing or damaging cells of the body's immune system, HIV progressively destroys the body's ability to fight infections and certain cancers.

Incapacitating agents: designed to induce physical or mental confusion, these weapons incapacitate the victim for a period of hours to days. Affected individuals generally recover without medical assistance.

Mustard gas: chemical compound used as a poison gas in world war I. A powerful vesicant, mustard gas causes severe blistering even in small quantities.

Mycotoxin: toxic substances produced by fungi growing on grain, feed, or food in the field or in storage. They may be detrimental to the health of both animals and humans.

Nerve gas: any of several poison gases for military use, e.g. tabun, sarin, soman, and VX. These gases generally cause death by asphyxiation.

Pandemic : a disease that afflicts many people over a vast area.

Precursor: means any chemical reactant which takes part at any stage in the production by whatever method of a toxic chemical. (Chemical Weapons Convention)

Phytotoxin: a toxin produced by a microorganism and active against a plant cells ; a toxin produced by a plant.

Rabbit haemorrhagic disease: highly infectious viral disease. Once it is introduced into a rabbitry, it can spread rapidly, causing a high percentage of the rabbits to die. There is no treatment for the disease.

Ricin: protein toxin which acts as a cellular poison and is readily produced from castor beans.

Sarin: volatile liquid used as a nerve gas. It is more toxic than tabun or soman. A gas mask provides adequate protection against the vapour, but the liquid form can also be absorbed through the skin.

Smallpox: variola is a member of the poxvirus family and is very contagious in humans, the only natural reservoir. Smallpox has been eradicated as an endemic disease. However, if variola is delivered as a biological weapon agent, it could result in the reemergence of smallpox.

Soman: liquid used as a nerve gas. Soman is more powerful than tabun, acting faster at lower concentrations.

Spanish flu: flu is an infection of the respiratory tract caused by the influenza virus. Spanish flu (1918-1919) caused the highest known influenza-related mortality (25 million deaths).

Tabun: liquid chemical compound used as a nerve gas. The liquid is absorbed through the skin, but the vapour is not.

Thrips palmi: small insect (polyphagous species) that causes severe injury to infested plants.

Toxic Chemical: any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or of their method of production, and regardless of whether they are produced in facilities, in munitions or elsewhere. (Chemical Weapons Convention)

Toxin: any poisonous agent, especially a poisonous substance produced by one living organism that is poisonous to other organisms.

Tuberculosis (TB): disease caused by bacteria (Mycobacterium tuberculosis). The bacteria can usually attack the lungs. TB is spread through the air.

Typhoid fever: life-threatening illness caused by the bacterium salmonella Typhi. The disease is common in most parts of the world except in industrialised regions.

VX : nerve gas several times more toxic than sarin but less volatile. It kills within minutes if inhaled or deposited on the skin.

DRAFT RECOMMENDATION

on chemical and biological weapons control – new challenges

The Assembly,

(i) Stressing the important contribution made by the Biological Weapons Convention and the Chemical Weapons Convention to international peace and security;

(ii) Aware of the technical developments that have taken place in the fields of chemistry and biology, especially biotechnology and genetic engineering, which could have offensive military applications;

(iii) Concerned at the possibilities for evading the provisions of the Biological Weapons Convention and the Chemical Weapons Convention that may result from such developments;

(iv) Highlighting the threat to international peace and security from persistent proliferation of toxic chemical and biological agents and the technologies from which they are produced;

(v) Emphasising the need to bring together the chemical, biological and biotechnology and pharmaceutical industries in the endeavour to control chemical and biological weapons, while respecting their legitimate commercial interests, in particular by affording due protection to patents and processes;

(vi) Concerned at the fact that among states that have not yet signed the Chemical Weapons Convention are countries, in particular Middle Eastern and Asian countries, which have research and development capabilities in this area;

(vii) Uneasy over the delays incurred in relation to the destruction of chemical weapons stockpiles, particularly those in the possession of the Russian Federation, and calling on the Russian Government to honour its commitments in this sphere, by complying with the time-limits provided for under the Chemical Weapons Convention;

(viii) Aware of the financial and practical difficulties that the achievement of that task presents and appealing for financial aid and the necessary technical assistance to be given, in a bilateral or multilateral framework, for the destruction of such chemical weapons stockpiles as soon as possible;

(ix) Desirous for the means available to the Organisation for the Prohibition of Chemical Weapons (OPCW) for overseeing compliance with the provisions of the Chemical Weapons Convention and for setting up effective assistance machinery – in particular in the face of the threat of a terrorist attack involving the use of chemical weapons – to be increased;

(x) Concerned about possible environmental damage from old chemical weapons dumped at sea, especially in the Baltic Sea area;

(xi) Noting with concern that the Biological Weapons Convention still does not provide for an effective system of control and verification of its application;

(xii) Calling on all signatory states to comply with their commitments in this field and not to deflect research into vaccines and forms of protection against toxic biological agents from its legitimate aim by developing organisms which, in modified or strengthened form, are resistant to current defences;

(xiii) Uneasy at the threat posed by the possible use of toxic biological agents in the context of terrorist action;

(xiv) Calling on the signatory states of the Biological Weapons Convention to pursue their efforts to negotiate the setting up of effective control and verification machinery, responsibility for which could be assigned to an international organisation similar to the OPCW;

(xv) Calling on the member states of the Australia Group to enhance cooperation between them for the control of toxic biological agents and, in the face of the increased threat of biological terrorism, give thought to setting up permanent structures for information exchange and assistance,

RECOMMENDS THAT THE COUNCIL

1. Place on its agenda follow-up of chemical and biological weapons issues and the risks arising from the emergence of an externally sponsored terrorist threat involving the use of toxic biological and chemical weapons, also identification of the measures necessary to protect civilian populations more effectively against these risks;

2. Demand that WEU nations that still hold chemical weapons stocks destroy them, according to the provisions and time scales provided for in the Chemical Weapons Convention, and call upon other nations to do the same;

3. Encourage information exchange and cooperation among the WEU and other European countries in connection with the disposal of old and abandoned chemical weapons with a view to preventing environmental damage;

4. Encourage information exchange, cooperation and the setting up of assistance machinery among WEU countries in connection with chemical and biological weapons control issues and the threat that the use of toxic, chemical and biological agents presents in terrorist attacks;

5. Encourage WEU nations sitting on international committees and groups responsible for the oversight and strengthening of the Chemical Weapons Convention and the Biological Weapons Convention to propose joint actions in this field, and, as far as possible, in cooperation with other allies and partners, particularly the United States, Canada and the Russian Federation;

6. Ask WEU nations to continue to pursue through diplomatic channels the matter of strengthening the Biological Weapons Convention and setting up effective control and verification machinery;

7. Ask WEU nations that are members of the Australia Group to enhance cooperation between them for the control of toxic biological agents and, in the face of the increased threat of biological terrorism, give thought to setting up permanent structures for information exchange and assistance;

8. Keep the Assembly regularly informed of any steps it takes in regard to chemical and biological weapons control and monitoring the threat of terrorist use of toxic chemical and biological agents.

AMENDMENTS 1 and 2[52]

tabled by Mr Schloten

1. In paragraph 1 of the draft recommendation proper, delete the words “externally sponsored”.

2. In paragraphs 1 and 7 of the draft recommendation proper, delete the word “toxic”.

Signed: Schloten

[52] See 10th sitting, 5 December 2001 (amendments adopted).