

# BIOLOGICAL WEAPONS AND GENETIC TECHNOLOGIES

Briefing 3 - May 2001

## Strengthening the Biological and Toxin Weapons Convention

The international agreement which outlaws the development, production or stockpiling of biological weapons is the Biological and Toxin Weapons Convention (BTWC). Agreed in 1972, it is important to question whether it is able to cope with recent developments in science and changing political circumstances. 2001 is a key year in this respect because the Fifth Review of the Parties takes place at the end of November. These Reviews are held every five years and all the countries who have signed the Convention meet to consider its effectiveness and how it may be strengthened. During 2001, it is also hoped that agreement will be reached on a verification and compliance Protocol to the Convention (see Briefing 2 in this series), although the USA may make this difficult and the position of the new Bush administration will be crucial to the outcome. Early indications are that the USA do not intend to support the Protocol.

### Background to the Convention

It was President Richard Nixon's announcement in 1969 that the USA was unilaterally renouncing biological weapons which paved the way to the agreement of the BTWC in 1972. The Convention now has 143 state parties plus 18 signatories with one exception being Israel.

Article I of the BTWC affirms a strong and fundamental commitment not to develop biological weapons:

*"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 means of delivery designed to use such agents or toxins for hostile purposes in armed conflict."*

Measures to ensure that biological weapons are not being developed and that the international agreement which outlaws them is not being broken (known as 'verification and compliance') are dealt with in Articles IV, V and VI but these have not been used effectively by state parties.

Although offensive research is outlawed under the BTWC, defensive research to devise protective measures against biological weapons is allowed. Countries such as the USA and the UK and many others have defensive research programmes which include developing detection devices and vaccines against harmful organisms which may be used. However, one of the problems of such research is that some of the knowledge acquired in the development of protection mechanisms could equally be used to create weapons for offensive purposes. This is one of the reasons why building confidence about non-hostile intentions, including defence establishments, is so important to establishing effective controls.

Other Articles in the Convention prohibit parties from exchanging material which may be used in biological weapons development (Article III) although there is also provision for international co-operation where biotechnology is to be used for peaceful purposes (Article X).

## Problems with the Convention

***Advances in genetics and genetic engineering could make biological weapons more 'attractive' to aggressors***

Whilst the BTWC overtly demonstrates a clear international rejection of biological weapons, three countries have admitted to having offensive biological weapons research programmes since it has been in force – Iraq, the former Soviet Union and South Africa – although these weapons have not been used. As science develops, the potential ways and means of producing biological weapons increase accordingly. Advances in genetics and genetic engineering in particular could make biological weapons more 'attractive' to aggressors by making them more rapid and effective at causing death or disease, or by enabling weapons to be targeted at certain ethnic groups.

A problem with the Convention is that there is no provision for institutions and mechanisms to detect and deter violations. There are also only weak provisions to ensure that countries are following the rules – in other words, there is no policing of the Convention and it has relied upon the good faith of the signatory states. Unlike other arms control regimes, the BTWC does not even have a secretariat to monitor developments in science, push countries to ratify the Convention and so on. These weaknesses in the BTWC have led to the negotiations on a compliance and verification Protocol.

Developing countries have been critical of the Convention on rather different grounds. They have argued that the Article III restriction on parties transferring any potential biological weapons agents or their means of manufacture has been used by the developed world to restrict their legitimate access to biotechnology. Even though exchange for peaceful purposes is encouraged under Article X, many developing countries believe this Article is not being implemented fairly because the economic interests of the developed world use the excuse of Article III to restrict exports. The Australia Group of countries, which co-ordinates export control policies, has been especially criticised because developing countries believe it is discriminatory.

It is also clear that an international agreement alone cannot be enough to prevent the development of biological weapons. Other measures are also needed and should include vigilance by individual citizens especially scientists and further legislation from governments to make participation in biological weapons programmes a criminal act.

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The remainder of this briefing considers how these issues are being addressed and how optimistic we can be about the control of biological weapons in the future.

## The Protocol Negotiations

A Protocol to the BTWC to establish a verification regime and strengthen compliance is long overdue (see Briefing 2 in this series). Based on the underlying need for verification of any arms control agreement, the Protocol faces both technical and political difficulties. Although the deadline for the conclusion of negotiations expires this year, their outcome is still completely unpredictable.

One key question is whether the USA is willing to accept sufficiently stringent controls. It is particularly resistant to allowing inspections of US military installations which are conducting biodefence and anti-terrorism programmes and of its biotechnology industry (which is much larger than any other country's

and so the USA feels it has most to lose). President Bush has ordered a review of US policy on biological weapons but no outcome has yet been announced, although reports indicate that the US will not accept a Protocol.

Developing countries may also make the negotiations difficult as they fight for measures to prevent them being unfairly discriminated against and economically disadvantaged by being prohibited from importing certain materials.

There are three possible outcomes of the negotiations:

- no agreement is reached and negotiations continue after the Review Conference in November;
- a weak Protocol is agreed which favours the interests of one negotiating group;
- proponents of a strong Protocol ignore the objections of the USA and other countries and reach their own agreement.

### **The Review Conference**

The Review Conference at the end of 2001 will provide an important opportunity to strengthen the Convention whatever the outcome of the Protocol negotiations. Important steps that could be taken include:

- specifying that the scope of the BTWC includes organisms, agents or delivery devices produced through new developments in genomics and other genetic technologies;
- ensuring that 'pests' are also included in the types of organisms covered – these could include insects which might cause crop damage or spread disease but are not specifically mentioned at the moment;
- specifying that the ban on 'hostile use' also includes the use of biological agents in law enforcement. Both the USA and the UK have established research programmes to develop the use of fungal diseases to destroy illicit crops such as opium and coca (see Briefing 1 in this series). These are not explicitly covered by the BTWC even though, as biological agents, they could cause disease and damage far beyond their area of application;
- establishing a secretariat to oversee the functioning of the BTWC.

### **Other Measures**

Even if the BTWC is strengthened, it will not be sufficient for society to rely on international agreements and official policing to safeguard it from the threat of biological weapons. There must also be an element of self-scrutiny by scientists and public monitoring of the scientific research that is being conducted. The recent finding that a single gene change to a mouse pox virus transformed it from causing only a mild illness to being lethal to mice has served to demonstrate how vigilant scientists must be. Whilst medical advances rely on gaining knowledge of disease processes, ensuring that such knowledge is not misused will demand close scrutiny. Support for 'whistle blowers' and openness are essential since, in an atmosphere of general openness, concealment becomes more noticeable and difficult to maintain. Education of science students about the risks and the BTWC will also help create conditions where biological weapons cannot flourish.

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Participation in an offensive biological weapons programme should also be made a criminal offence under national laws. In the case of the BTWC, it is the states who sign the Convention that are held responsible and not the individuals involved. Making individuals accountable for their actions could act as an important deterrent against biological weapons development.

## Conclusions

Whilst the negotiations around the Protocol to the BTWC hang in the balance, one voice is strangely silent – that of the biotechnology industry. A strengthened Protocol would be far more likely if the industry were to publicly support it and marginalise the USA's political position. They have everything to gain in terms of PR and nothing to lose since the inspection regimes are designed not to compromise commercially confidential material and the proposed inspectorate would be both professional and independent.

A strong Protocol is the only acceptable solution to avoiding the threat of biological weapons development and negotiators should not be intimidated by the USA. They must also plan for failure and how to strengthen the BTWC in other ways if the USA or others prove intransigent, particularly by taking the opportunity afforded by the Review Conference in November.

2001 will be a crucial year in biological weapons control but it is still too early to judge how effectively biological weapons will be controlled in future. Public pressure will continue to be a key factor since, in the absence of close scrutiny, security will be seriously compromised.

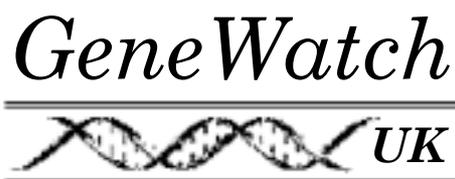
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## Resources

- Department of Peace Studies, University of Bradford - comprehensive collection of detailed materials on the BTWC and the Protocol: [www.brad.ac.uk/acad/sbtwc](http://www.brad.ac.uk/acad/sbtwc)
- Federation of American Scientists – extensive collection of information on verification and other biological weapons issues: [www.fas.org/bwc](http://www.fas.org/bwc)
- The Harvard Sussex Program on CBW Armament and Arms Limitation – academic research programme on chemical and biological weapons control: [www.sussex.ac.uk/spru/hsp](http://www.sussex.ac.uk/spru/hsp)
- VERTIC – The Verification Research, Training and Information Centre: [www.vertic.org](http://www.vertic.org)
- The Sunshine Project – campaigning against biological weapons and their use in law enforcement: [www.sunshine-project.org](http://www.sunshine-project.org)

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