



**30th Workshop of the Pugwash Study Group
on the Implementation of the Chemical and
Biological Weapons Conventions:**

**Preparing for the Seventh BWC Review
Conference**

Geneva, Switzerland, 5-6 December 2009

Report

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Particular thanks were given to the Association Suisse de Pugwash (ASP) who, together with the Geneva International Peace Research Institute (GIPRI), hosted and organised this Workshop with the help of Christine Demièrre who made the detailed arrangements in Geneva. Without the continuing support of the Swiss Federal Government, there would have been no workshop.

The workshop took place on the eve of the Biological Weapons Convention (BWC) Meeting of States Parties on 7 to 11 December 2009 and was attended by some 40 participants, all by invitation and in their personal capacities, from about half that number of countries, including Australia, Austria, Belgium, Canada, Germany, India, Iran, Italy, Japan, the Netherlands, New Zealand, Pakistan, Poland, Russia, Spain, Sweden, Switzerland, the United Kingdom (UK) and the United States of America (USA), among them participants from the International Committee of the Red Cross, the Technical Secretariat of the Organization for the Prohibition of Chemical Weapons, and the World Health Organization. In addition, the Chairman of the 2009 Meeting of BWC States Parties, Ambassador Marius Grinius of Canada, participated.

This report is the sole responsibility of its author, who was asked to prepare a brief account of the proceedings of the meeting in consultation with the Steering Committee. It does not necessarily reflect a consensus of the workshop as a whole, nor of the Study Group. The

workshop was strictly governed by the Chatham House Rule, so reference to specific speakers is not detailed here.

Introductory Session

Developments related to the Chemical Weapons Convention

Although scheduled for the opening session, this was rescheduled for Sunday morning to facilitate the participation of representatives from the OPCW. It is, nevertheless, reported as planned here.

The workshop heard a report on the progress in the implementation of the Chemical Weapons Convention (CWC). It was noted that while the OPCW is a well functioning institution, there exist several inevitable challenges for the future. First, it is evident that not all CW destruction will be completed by the April 2012 deadline and discussion will need to take place between Member States to reach a politically and legally acceptable decision on this issue. Next, as CW destruction does begin to draw towards completion, destruction facilities will be going out of commission and there will be a reduced need for inspectors. This transition in function, and the possible attendant need to downsize the organisation, will require careful planning. It was suggested that the future direction of the OPCW should be towards improving monitoring of non-proliferation, with a greater emphasis on industry. It was also pointed out that there were other challenges such as to how new developments in science and technology and how the convergence of chemistry and biology should be addressed. It was suggested that the OPCW could with advantage build more synergies and alliances with the BWC, other international organisations and NGOs.

A number of developments as evident in particular, during the recently concluded 14th session of the CSP, were also discussed. It was noted that most delegations touched on issues of inspections, destruction deadlines, cooperation and assistance, and the future of OPCW. Discussion in respect to Article 7 (national implementation) and Article 10 (assistance and protection) had been particularly encouraging, and an increasing number of Member States focused on the potential role of the CWC in mitigating the threat of CW terrorism.

It was also noted that there had been positive developments in terms of engagement by the OPCW with NGOs. Global Green USA, in partnership with VERTIC, hosted a two-day meeting during the Conference of State Parties to push forward the proposal of an NGO Coalition against

CW. Some 50 participants, representing around 30 NGOs, attended the meeting to discuss the mission statement, organisation and activities of the Coalition. It has been proposed that the International Coalition for a World Free of Chemical Weapons, or 'CWC Coalition', be an independent body whose aim is to support the CWC and its efforts towards universality, implementation, transparency and meeting CW destruction deadlines. 25 NGOs have already signed up to the Coalition and it is hoped that many more will do so in due course.

International CBW Criminalization: the Harvard Sussex Draft Convention

A brief presentation was made on the Harvard Sussex Draft Convention on the international criminalization of CBW. The Draft Convention proposes to harmonise domestic law with international law by conferring on national courts jurisdiction over individuals present in their national territory, regardless of their nationality or official position, who order, direct, or knowingly render substantial assistance to the use of biological or chemical weapons anywhere. Given the growth of new science and technology and the attendant challenges of compliance and verification of the treaty regime, it was suggested that the need to develop the idea of individual criminal responsibility was becoming increasingly apparent and that the time might now be ripe for meaningful discussion of moving the draft convention forward into the domain of public policy. In order to aid dissemination of the idea a number of information resources had been prepared and uploaded to the Harvard Sussex Program website^[1] and a symposium for further discussion of the Draft Convention on the international criminalization of CBW is being planned.

Meeting of Experts BWC 24 – 28 August 2009

The topic being addressed by the Intersessional Process in 2009 is:

With a view to enhancing international cooperation, assistance and exchange in biological sciences and technology for peaceful purposes, promoting capacity building in the fields of disease surveillance, detection, diagnosis, and containment of infectious diseases: (1) for States Parties in need of assistance, identifying requirements and requests for capacity enhancement; and (2) from States Parties in a position to do so, and international organizations, opportunities for providing assistance related to these fields;

The Chairman of the meetings in 2009 is Ambassador Grinius of Canada. In considering a report on the Meeting of Experts, it was noted that that meeting had been extremely successful

with a high level of participation and high quality expertise. In addition, a large part of the meeting had for the first time been webcast live to enable wider access and participation of those experts who were unable to attend the meeting in person.

There was rich discussion on implementation of the first paragraph of Article X during the Meeting of Experts. The Chairman had prepared a synthesis paper from the discussions at the Meeting of Experts which addressed six key themes:

- Aims
- Problems, challenges and needs
- Developing mechanisms for building capacity
- Developing the necessary infrastructure
- Developing human resources, and
- Developing standard operating procedures.

In essence, it was recognised that there was a need for the following:

- Sustainability
- Integrated approach
- Coordinate assistance, cooperation and capacity-building, and
- Identifying regional needs.

It was also noted that as the Seventh Review Conference in 2011 draws closer, it will be necessary to prepare for decisions at the Review Conference which will map out the future of the BWC. In this regards, it was suggested that the BWC should be seen as more than just an arms control treaty but rather as the *focal point of a broader security regime* that brings together activities in a number of arenas, such as science and human, animal and plant health.

II

Preparing for the Seventh BWC Review Conference in 2011

A. Preparing for a successful outcome

This session began by exploring opportunities for the future of the BWC beyond the Seventh Review Conference. It could be argued that it would not be a useful strategy for the BWC to either revisit the verification protocol idea or to continue the intersessional process in its current form. There was a risk that a return to negotiations similar to those of the verification protocol could risk overwhelming States with divisive issues at the expense of actual activity that would

address contemporary concerns with the BWC. Yet, at the other end of the spectrum, a simple continuation of the intersessional process with its preset agenda would not do enough to enrich *and strengthen* the BWC.

What is needed, it was suggested, is a new agenda that goes beyond the current scope of activities and addresses both contemporary and medium-to-longer term questions. It was noted that many good ideas already exist but these need to be brought together. It was also suggested that intersessional activities should be reformulated to be made more ambitious and effective in the period 2012 to 2016 with an extended mandate, and that a wider range of stakeholders should continue to be brought into activities. Furthermore, it was argued that there is a need for a forum for States Parties to engage in discussion of a compliance strategy.

Reiterating the need for effective action, an alternative view was also presented on the verification protocol. It was suggested that the time might now be conducive for discussion of the protocol. It was proposed that a less prescriptive and less detailed new text could be prepared based on the text of 2001 in line with the mandate of the Special Conference of 1994. Furthermore, a phased approach could be adopted whereby decisions on more contentious issues could be postponed until future Conferences of States Parties. Concerns were expressed, however, that such an approach based on the 2001 text might have “political baggage” and that advances in science and technology might not be adequately addressed.

This session ended by examining a possible means by which an assessment could be made of the success or failure of the regime to control BW. It was noted that the regime was much wider than simply the BWC itself and also included, for example, the Geneva Protocol, Security Council Resolution 1540, the Australia Group and national implementation measures. Some threat ambition categories were identified: (non)use; (non)integration; (non)possession; (non)acquisition; (non)aspiration that might be used in analysing the success or failure of the regime,

B. Improving the Monitoring of the Implementation of the Convention

This session opened with an examination of the importance of an implementation mechanism for the BWC. It was noted that many States Parties recognised the importance of a legally binding compliance mechanism, and at the Meeting of Experts in August 2009 there were several statements mentioning this in looking ahead to the Seventh Review Conference. It was said that it is time for action now so that ideas can be put forward through Working Papers at the

intersessional meetings in 2010. Such ideas should provide a fresh start, with no preconditions, to consider a regime to build confidence in compliance so as to strengthen the effectiveness and improve the implementation of the Convention.

The promotion of partnerships with the life sciences industry and civil society was explored as a means to support the 2010 intersessional process and the upcoming review conference. It was said that the life sciences industry needs to be included in dialogue in a more concerted manner, modelled on the CWC experience, since private industry is indispensable in the development of effective codes of conduct and self-regulatory mechanisms. It was also noted that few States had collected information on industry in their CBM submissions but that this could provide a means to build confidence and harmonization of standards with regard to biosafety and biosecurity. However, it was argued that such mechanisms should apply broadly, not just to industry, but to all laboratories. It was further suggested that civil society must play a crucial role in outreach to educate and build awareness of the issue and to promote support for the necessary mechanisms within the BWC. Such awareness-raising should help to build trust and focus on industry as part of the solution.

This session ended by examining the promotional, rather than regulatory, aspects of the BWC. It was noted that during the Meeting of Experts in August 2009, the NAM group had submitted a Working Paper proposing a mechanism for effective implementation of Article X as a part of negotiations to strengthen the Convention. Similarly, Iran had submitted a Working Paper proposing a mechanism to deal with denials of technology and material transfers. It was therefore argued that cooperation and assistance should be strengthened within the framework of the convention to fully implement Article X. However, it was also noted that while the BWC should not inhibit scientific freedom, it would be necessary to recognise that States Parties had responsibilities under both Article X and Article III – the non-proliferation obligation– of the Convention.

C. Improving the CBM regime

This session examined proposals to strengthen the CBM mechanism. It was noted that consensus needs to be built on what is needed, what is feasible and what information builds confidence. In order to build momentum to bring this agenda to the Review Conference, a series of workshops have been organised. The first workshop took place following the Meeting of Experts in August 2009. This workshop examined the history of CBMs, the strengths and

weaknesses of the mechanism, how contexts have changed scientifically and politically, how existing CBM forms may be improved or remodelled, and what other elements of compliance assessment are necessary. A further workshop is scheduled to take place following the Meeting of States Parties in order to explore options for moving forward and what essential elements are required in a confidence building mechanism. A final workshop is planned for spring 2010 on Berlin in order to bring the ideas together.

It was further reiterated that States Parties need to start considering this issue in the coming year and to submit Working Papers in 2010 on what steps should be taken at the Seventh Review Conference to strengthen the CBM mechanism – through steps to facilitate their submission, through extended understandings as to what should be declared under the existing CBMs, and through new CBMs on topics such as Article X, as well as on outreach, awareness-raising, education and codes of conduct. It was also suggested that States Parties should be encouraged to share legislative data through the CBM mechanism.

Questions were also raised over the mechanism through which States Parties analyse information submitted through CBM forms. It was argued that if they are not being effectively analysed then it could be argued that their value was questionable. However, it was said that CBMs should be seen as part of a broader effort of building confidence in compliance.

D. The Convergence of Chemistry and Biology

This session examined the convergences in chemistry and biology and attendant challenges for the treaty regime. The session opened by proposing that if chemistry and biology really are converging to such a degree, then the two Conventions – the CWC and BWC – ought also to be considering how best their regimes might be integrated. It was noted that while certain potential new agents (such as, for example, bioregulators) fall within the scope of both treaties, this does not necessarily mean they are doubly protected. It was also observed that although both conventions prohibit the weaponisation of toxins, it could be argued that this overlap, has not reinforced safeguards. Despite the magnitude of threat presented by new agents such as mid-spectrum agents they are only weakly controlled. It was suggested that opportunities should be taken during the 2011 and 2013 Review Conferences of the BWC and CWC to bring convergences between the treaties into real prospects.

An update on advances in science and technology was provided, focusing on the areas of functional genomics, synthetic biology, systems biology and targeted delivery systems. It was

notekistan, Poland, Russia, Spain, Sweden, Switzerland, the United Kingdom (UK) and the United States of America (USA), among them participants from the International Committee of the Red Cross, the Technical Secretariat of the Organization for the Prohibition of Chemical Weapons, and the World Health Organization. In addition, the Chairman of the 2009 Meeting of BWC States Parties, Ambassador Marius Grinius of Canada, participated.

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The workshop heard a report on the progress in the implementation of the Chemical Weapons Convention (CWC). It was noted that while the OPCW is a well functioning institution, there exist several ind that progress in functional genomics could facilitate the manipulation of complex microorganisms, including viruses, to meet designer specifications. Advances in sub-fields of synthetic biology are also opening up the possibility of the potential misuse of biological agents other than microorganisms and toxins, such as peptide and protein bioregulators of physiological systems, and it was argued that governance strategies are not sufficient to keep pace with developments. It was suggested that top-down and bottom-up approaches are necessary to address biosecurity at the level of provider, purchaser, principal investigator, project and premises. It was also noted that advances in systems biology – a field of biology that seeks to understand the working of complex physiological systems within and between cells – presents the largest potential scope for abuse through the manipulation of vital cellular targets. Of further concern are advances in agent delivery techniques. The production of defined nanoparticles combined with new methods for making substances absorbable through the nasal and respiratory tracts create a potential for greatly improved aerosol delivery of bioactive

compounds. Improvements in targeting and gene transfer efficacy of viral vectors (potentially combined with aerosol delivery) further increase the dual-use risk.

It was noted that many of these developments represent a spectrum of threat agents that fall within the scope of both Conventions. In addition, it was observed that there is also convergence with other disciplines, such as informatics and engineering, not just chemistry and biology, which creates further complexity for the regime – particularly with regard to the coverage of Article I of the BWC. However, the central agents that cause harm are chemical or biological materials and for this reason convergence of the two regimes needs to be considered. It was observed that there could be difficulties in effective convergence of the the CWC and BWC until there is equal or full universalisation of both treaties. However, this was not an argument against developing better links between the two regimes so that both can learn from the successes of the other and cross-fertilization between the OPCW and the ISU encouraged.

In order to meet the challenges of advancing science and technology, it was argued that scientific advice needs to be a more formal and frequent part of the BWC process and that a compliance assurance mechanism was essential for maintaining the “web of prevention”. However, it was also noted that developments do not necessarily equate to an increased risk of misuse and it was important to avoid raising unnecessary alarm, while avoiding the dangers of complacency. Effective risk assessments need to be conducted.

This session ended with an overview of engagement with the scientific community during the intersessional process, focusing on the meetings of 2005 and 2008. It was argued that without the opportunities offered by the intersessional process, far less progress would have been made toward engaging the scientific community in issues relevant to the BWC. In dealing with the challenge of convergence and the engagement of the scientific community, three key points were made:

- It is a dual-benefit opportunity. The need for sound advice in trends in science and technology provides an opportunity to engage scientists in the BWC process.
- Some of that process is already underway. Discussion of convergence is already occurring in some workshops.
- The work of scientific organisations must be complementary not competitive.

E. Concrete measures from the Intersessional Programme 2007-2010

This session began with an exploration of what concrete measures might be identified and adopted by the Seventh Review Conference in regard to the outcomes of the intersessional process. A number of concrete measures were identified:

- Consideration should be given to future annual meetings of States Parties, being able to discuss a wider range of topics
- States Parties should be encouraged to submit their CBMs and should provide a verbal update if they have not.
- States Parties should be encouraged to provide up to date information on their national legislation.
- States Parties should provide information on their national measures to ensure biosafety and biosecurity. It was noted that the ISU is trying to maintain record of nations' biosafety and biosecurity approaches.
- States Parties should provide information on what steps they have taken nationally in regard to awareness raising, education and codes of conduct.
- States Parties should consider how to ensure that capacity building is taking place and whether the capacity within an individual State Party is adequate or not.

It was also noted that a BWC annual meeting, in addition to the MX and MSP, should be formalised in order to build momentum year on year, instead of having to over-compartmentalise a few aspects of the BWC in the intersessional meetings and defer any agreed decisions on actions until the subsequent Review Conference. It was said that consideration also needs be given to how implementation of the convention can be taken forward. It was proposed that an accountability framework could be developed in which systematic and structured compliance reporting could be built into the BWC architecture (ie, during the proposed annual meetings).

The session continued with an exploration of the topics of the intersessional meetings 2007-2010.

1. Topics in 2007

Enhancing national implementation

A report on VERTIC's Regulatory Guidelines for National Implementation of the BWC was provided. The Regulatory Guidelines serve as guidance to States Parties engaged in the process of preparing regulatory and administrative measures necessary to supplement their primary legislation for national implementation of the BWC, as well as obligations under Resolution

1540. Part I of the Regulatory Guidelines focuses on biosecurity, including guidance on the establishment of control lists for biological agents, toxins, and dual-use equipment and technology. Part II focuses on enforcement and includes guidance on establishing a National or Responsible Authority for the Convention and the establishment of a mechanism to respond to any biological incidents. The Regulatory Guidelines are available in five of the six official languages of the UN and are intended not as a set of model regulations, but rather as suggestions, tips and links to examples of best practices.

2. Topics in 2008

Measures to improve biosafety and biosecurity

WHO [in full if this is first use of acronym] activities in relation to laboratory biosafety and biosecurity, including the ongoing development of a guidance document on responsible life science research, was reviewed. The guidance document aims to raise awareness with different audiences and stresses the importance of openness and accountability as the best guarantees of progress and security. The guidance document also includes a self-assessment questionnaire to address needs and weaknesses within the research framework, research ethics, and laboratory biosafety and biosecurity. It was noted that there is no single solution or system for all countries and the guidance document is not intended as a global risk assessment. Rather, within the context of public health, it provides guidelines on the necessary elements of responsible life science activity.

The proposal by the Hamburg Research Group of global trade monitoring of biological dual-use goods was also explored. Based on the fact that monitoring of trade data had helped to uncover Iraq's illicit BW program, it is proposed that such biological dual-use data be monitored globally. It was noted that trade data is registered using the Harmonized System (HS) which is maintained by the World Customs Organization (WCO) but that biological dual-use items are poorly described and identified in the HS nomenclature. It was suggested that customs codes for biotechnology and biological dual use items needs to be created in order to increase transparency of BW relevant trade. A proposal was developed by the Hamburg Group but, despite support from the WCO as well as some state and industry representatives, it was rejected on the basis that an NGO did not have the right to submit proposals to the WCO. The Hamburg Group are now trying to gain state sponsorship of the proposal.

Oversight, education, awareness raising, and codes of conduct

It was noted that one reason for the lack of awareness of dual use issues among the life science community is that biosecurity does not feature in university life science education. In order to address this deficiency it was argued that top-down State Party action will be required to bring awareness-raising on the radar. However, civil society can contribute productively by producing educational material and modules. Furthermore, it was suggested that the development of country and regional networks of lecturers interested in bringing biosecurity and dual use issues into their courses could generate a much faster development and uptake of material. The Bradford resource on developing an educational module is now available online^[2] and it is proposed that further use of online distance-learning technologies be applied to train-the-trainer programmes.

3. Topics for 2009

Promoting capacity building in the fields of disease surveillance, detection, diagnosis, and containment of infectious diseases

This session examined the EU Joint Action International Workshop (co-hosted with the ISU) on improving cooperation under Article X of the BWC for disease surveillance, detection, diagnosis and containment. Participants discussed three main themes that had emerged from the Meeting of Experts in August 2009 – coordination, integration of approaches to human, animal and plant health, and sustainability of cooperation. The workshop provided valuable input into how to make cooperation sustainable noting the challenges of commitment, political stability, human resources and infrastructure. It was also noted that coordination with NGOs and international organisations provided opportunities for information sharing.

4. Topics for 2010

Assistance in the case of alleged use of biological or toxin weapons, including improving national capabilities for disease surveillance, detection and diagnosis and public health systems

This session examined WHO contributions to the UN Secretary General Mechanism for investigation of alleged use of CBW. It was noted that WHO provides support to the UN Office of Disarmament Affairs in terms of information sharing and updating operational guidelines for conducting investigations. WHO also participated in the UNODA training course in Umeå, Sweden on investigations of alleged use of BW, providing background on international health regulations and detailed descriptions of several public health emergencies. However, it was

noted that WHO maintains public health neutrality and is not involved in decision-making with respect to alleged use. In discussion, it was noted that any consideration of alleged use needed to recognise the inherent difficulties of distinguishing between natural and deliberate outbreaks of disease and between the use of chemical or biological agents on the basis of initial reports. Furthermore, consideration needs to be given to the mandate of the OPCW under the CWC and its relationship to the UNSG. A further point related to the logistics of reaching the site of the alleged use – the international logistical capabilities available in the UN Office for the Coordination of Humanitarian Affairs (OCHA) were noted.

The session was rounded off with challenges for the future. First, it is evident that not all CW destruction will be completed by the April 2012 deadline and discussion will need to take place between Member States to reach a politically and legally acceptable decision on this issue. Next, as CW destruction does begin to draw towards completion, destruction facilities will be going out of commission and there will be a reduced need for inspectors. This transition in function, and the possible attendant need to downsize the organisation, will require careful planning. It was suggested that the future direction of the OPCW should be towards improving monitoring of non-proliferation, with a greater emphasis on industry. It was also pointed out that there were other challenges such as to how new developments in science and technology and how the convergence of chemistry and biology should be addressed. It was suggested that the OPCW could with advantage build more synergies and alliances with the BWC, other international organisations and NGOs.

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Concluding Remarks

The workshop concluded with the observation that between now and the next BWC Review Conference there was a window of opportunity to look ahead and for all States Parties to look comprehensively at all the possible elements such as improving CBMs, an accountability framework, measures to build confidence in compliance, annual meetings of States Parties able to consider the consolidated agenda and networks so as to move beyond the intersessional process so as to arrive at a stronger BWC with more effective mechanisms in which the BWC is a central element in an integrated health, security and safety strategy.

[1] <http://www.sussex.ac.uk/Units/spru/hsp/Harvard-Sussex-Program-draft-convention.htm>

[2] www.dual-usebioethics.net