

Pugwash Conferences on Science and World Affairs

*Pugwash Meeting no. 331*

27<sup>th</sup> Workshop of the Pugwash Study Group on the  
Implementation of the Chemical and Biological Weapons Conventions:  
***Moving Forward after the Sixth BWC Review Conference***  
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**Report**

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This workshop was hosted by the Association Suisse de Pugwash in association with GIPRI, the Geneva International Peace Research Institute. The meeting was supported by a grant provided by the Swiss federal authorities. Participants were welcomed by the President of the Association Suisse de Pugwash.

The workshop took place on the eve of the 2007 Meeting of States Parties to the Biological Weapons Convention (BWC) and was attended by forty-eight participants, all by invitation and in their personal capacities, from eighteen countries: Australia, Belgium, Canada, France, Germany, Iran, Ireland, Italy, Macedonia (FYROM), the Netherlands, New Zealand, Pakistan, Russia, Slovakia, Sweden, Switzerland, the UK and the USA. 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.

I

***Towards the Second CWC Review Conference***

The workshop opened with a report on the challenges ahead for the Second Review Conference of the Chemical Weapons Convention (CWC), which is scheduled for April 2008. It was noted that while the CWC enjoys an exemplary record of success compared to other multilateral disarmament regimes, several challenges remain. One general challenge is to ensure that the political commitment of member states to the CWC and Organization for the Prohibition of Chemical Weapons (OPCW) is maintained, particularly in view of the current deterioration of the situation in the field of arms control, disarmament and non-proliferation.

Another more specific challenge is dealing with the slower than expected rate of chemical weapons (CW) destruction and addressing potential failures to meet deadlines. Focusing on the Albanian experience, in which the CW destruction deadline was missed but the destruction was ultimately achieved, it was suggested that the CWC is flexible enough to deal with such 'mini-crises'. In regard to the more pressing situation in the USA and Russia it was urged that political efforts

should be focused on the need to comply with deadlines rather than reinforcing the perception that delay is inevitable.

It was also suggested that measures must be in place to avoid complacency after CW destruction has been achieved. This raises the issue of compliance and verification more generally. It was noted that more resources will need to be transferred to industry verification and that more effective mechanisms for such verification are necessary. It was also suggested that the wider issue of non-proliferation should become more prominent in the work of the OPCW to promote effective implementation of, and compliance with, the CWC, such as designing mechanisms for assisting effective national implementation and continuing to work towards full universality.

It was further pointed out that the General Purpose Criterion (GPC) must be reaffirmed in the Second Review Conference to ensure the comprehensive nature of the convention. This is particularly important in respect to the challenges presented by the continued and rapid developments in science and technology (S&T) as well as perceived new utilities for 'non-lethal' CW and incapacitating biochemicals.

Another challenge for the full and effective implementation of the CWC lies in reducing the risk of chemical attacks by non-state actors and terrorists by improving organization, planning and security within the chemical industry. It was noted that efforts around terrorism must also be balanced against costs in terms of transparency.

The final challenge discussed was the need for capacity building within the OPCW. It was argued that the OPCW should have greater capacity to develop new ideas, to have meetings on a wider range of trans-boundary topics, and to develop stronger links with non-governmental organizations (NGOs), think tanks and other organizations. It was noted that the BWC Implementation Support Unit (ISU) had met with the OPCW at the 9<sup>th</sup> Annual Meeting of National Authorities in The Hague, and it was suggested that mechanisms for greater overlap and learning exchange within the CWC and BWC would be mutually useful. Finally, it was observed that the tenure policy in place in the OPCW was creating a loss of institutional memory and that contracts with no definite expiration date, but which may be terminated at any time with six months notice and the payment of additional indemnity within the framework of the tenure system would improve the retention of high calibre staff.

### ***Implementation of the Decisions on the Sixth BWC Review Conference***

A report was given on the implementation of the decisions that came out of the Sixth BWC Review Conference. Contrary to earlier pessimism, the Sixth Review Conference demonstrated a renewed commitment of states parties to the BWC, with several positive outcomes being agreed and subsequently implemented, namely:

- Progress has been made in persuading new states to join the BWC and others have made commitments to join hence moving forward towards universalisation
- The ISU (Implementation Support Unit) has been created within the UN Office of Disarmament Affairs and has been active across the full breadth of its mandate. Further roles for the ISU were also suggested, such as providing

analysis of the quality of national implementation legislation, producing a background document for an implementation check-list, creating an information resource for sharing NGO activity with States parties and establishing mechanisms for improving dialogue with the scientific community.

- Electronic reporting formats for the confidence-building measures (CBMs) have been implemented. 2007 has seen the largest number of CBM returns (61) since their inception.
- One in three States parties have provided details of a national point of contact, and this number is expected to double over the course of the next year.
- Progress has been made on national implementation. The National Implementation Database, maintained by the ISU, has increased in size by a third since it was created in 2003.

The 2007 Meeting of Experts had also been a success. It fostered information sharing between organizations and agencies, and demonstrated synergies both within and across delegations. It is hoped that the Meeting of States Parties will build on this success through focusing on three critical areas:

- Building synergy with other international organizations.
- Increasing inclusiveness of academic and research institutions as well as NGOs.
- Improving transparency through open communication and dialogue with industry.

Finally, it was noted that the intersessional meetings for 2008 will consider biosafety and biosecurity as well as education and awareness-raising. Addressing these issues will necessitate continued engagement with the scientific, medical, commercial and educational communities and a major challenge for next year will be for the Chair to integrate these resources into our collective efforts to minimising the possibility of the use of biological science and technology for malign purposes.

## II

Moving Forward from the Sixth BWC Review Conference

### ***The Intersessional Programme 2007-2010***

#### *Topics for 2007 – National implementation*

Work on this agenda item began with a report on the ISU, its mandate and activities. The ISU provides administrative support to meetings as well as comprehensive implementation, universalization of the Convention and the exchange of CBMs. The ISU has created and maintained a website relating to the Convention which includes a restricted access area for states parties. The restricted section of the website provides telephone, facsimile and e-mail addresses for national points of contact, electronic copies of CBM submissions and information on the results of efforts to promote universalisation. Some of the CBM submissions are posted in the open part of the ISU website. The full report of the ISU meeting with the OPCW is also in the

restricted area but this does not necessarily reflect a long-term policy to restrict access to such reports.

In regard to the intersessional process, it was stressed that the ISU was a tool for the states parties and, as such, does not set the agenda, but rather helps to implement it. In discussion, mechanisms for increasing the input of scientific expertise were discussed, such as informal channels of dialogue and formal advisory boards. Resource limitations of the ISU were also discussed in this context, but the small size of the ISU (3 staff) was also considered to be beneficial in enabling fast action.

The next presentation pointed out that there was a need for sustained action on national implementation, recognising the experience of the CWC. It was suggested that inputs to the National Implementation Database should be analysed on a regular basis by the ISU using a set of simple indicators thereby enabling the States Parties collectively to appreciate what progress had been achieved. Such indicators could be developed from those used by the OPCW. In discussion, some doubt was expressed over the use of the OPCW model but it was argued that simple indicators would be a useful step forward in an ongoing process.

The following presentation focused on this theme of process in relation to national implementation. It was urged that national implementation should be understood as comprising three components – legislation, enforcement and monitoring. It was also suggested that a promotional element could be added to this understanding in terms of promoting national implementation in developing countries.

It was stressed that enforcement should not be limited to ‘big stick’ actions such as fines and prosecutions, but also ‘softer’ approaches such as requiring changes in research procedures, serving improvement notices or prohibition notices, and withdrawing consent for questionable research. It was also suggested that monitoring of the life sciences should be understood as an ongoing day-to-day process consisting of overlapping methods for monitoring at multiple stages in the research and development (R&D) process.

It was pointed out that effective risk regulation regimes should comprise and combine all these elements – legislation, enforcement and monitoring – in order to be effective. In this regard, it was noted that the artificial disaggregation of topics for the intersessional meetings was potentially problematic as it limits opportunities to recognise the real linkages between the topics.

The final presentation examined national implementation efforts through a survey of states’ legislative provisions. The survey contained 96 criteria (based on but not limited by the UN Security Council Resolution 1540 matrix) covering definitions, offences and penalties, preparations to commit offences, jurisdiction over offences, control lists, preventative measures to account for, secure and physically protect dangerous biological agents and toxins, and enforcement. 35 countries were surveyed from a wide geographical spread.

The results of the survey suggested that only a small number of countries have developed laws directly implementing the BWC. It was said that while most states

surveyed appear capable of being reactive to events involving biological weapons (BW), most are not in a position to be proactive in preventing such events or regulating pathogens for legitimate and peaceful purposes. It was suggested that much work remains to be done in assisting states with filling the gaps in their legislative framework. It was suggested in discussion, however, that the selection criteria of the survey may have placed high expectations on the states legislature and that apparent gaps in the findings may in fact reflect irrelevancy to certain states rather than legislative inadequacy.

Another concern was expressed in terms of the implications of ‘filling the gaps’ by providing standardised legislation for national implementation. It was said that standardised legislation was problematic for several reasons:

- It is not sensitive to social/cultural elements
- It misses the process, which can be valuable in creating a sense of ownership of the problem
- Models encourage a ‘rubber-stamping’ mentality, which discourages adaptation and continued review

However, model legislation can be helpful in providing elements that can be incorporated into national legislation.

In conclusion, it was felt that legislation for national implementation is best understood as a ongoing and complex process, but that tools should be offered to states to help with the process by providing drafting assistance, check lists and other educational tools.

#### *Topics for 2007 – International cooperation on BWC implementation*

Work on this agenda-item addressed the promotion of assistance and international cooperation on BWC implementation from the perspective of the European Union (EU). It was noted that the EU has promoted its legal assistance project under the BWC Joint Action for more than one and half years but that only a few countries had formally applied for assistance.

It was argued that the problem is due in part to the absence of an international organization with the mandate to screen the implementation of the BWC, but also due to a lack of priority in some countries where WMD proliferation is not considered a national concern. It was suggested that states should be encouraged to recognise that non-proliferation and other objectives of domestic policy are not necessarily contradictory. In addition, it was pointed out that the EU is in the process of adopting new Joint Action in support of World Health Organization (WHO) activities in the area of laboratory biosafety and biosecurity under the overall objective of supporting the implementation of the BWC.

Given the institutional deficit that characterizes the organizational underpinning of the BWC, it was further suggested that the involvement of other international organizations, such as the WHO, should be encouraged to work with the ISU to facilitate the process of providing assistance and international cooperation on BWC implementation.

Finally, it was also noted that the promotion of cooperation on BWC implementation not only provides opportunities for improving mechanisms for national implementation, it also has a role to play in generating regional dynamics of trust and transparency.

*Topics for 2008 – Biosafety and biosecurity*

Work on this topic began with a presentation examining the framing assumptions that have driven initiatives on the governance of dual-use research. Drawing on literature in the field of science and technology policy, it was argued that dual-use policy can be understood in terms of two models: technology transfer and technology convergence.

The traditional model regards technology primarily as an event – an artefact with a fixed function – and as such conceptualises the dual-use problem in terms of preventing the transfer of intrinsically dangerous research and technology to hostile states or non-state actors.

The alternative model focuses on technology as an innovation process that interacts and converges with wider social systems. Technology is therefore understood as more than simply an artefact and also includes the knowledge, concepts, experiments and intangibles of the process too. In this model the dual-use problem is framed in terms similar to the General Purpose Criterion, with control measures being directed at purposes rather than artefacts. It was argued that framing the dual-use problem in terms of technology convergence implies that a ‘lighter touch’ in policy design is needed to create cumulative webs of governance measures akin to the ‘web of prevention’ model.

The next presentation focused on the issues of biosafety and biosecurity from the perspective of the public health mandate of the WHO. The WHO has in place several proactive measures including the International Health Regulations (2005) and Biorisk Reduction, which provides guidance and training on the safe handling and control of disease agents. It was suggested that the guidelines provided by the WHO could translate into national standards for biosafety and biosecurity, though the variable health situation in different countries was also noted. It was also suggested that a mechanism should be in place, at both the medical and organizational level, to investigate the nature of outbreaks (natural or deliberate).

The final presentation examined some of the challenges facing the WHO Global Influenza Surveillance Network (GISN). It was argued that international sharing of viruses could be problematic in terms of national sovereignty and intellectual property rights. Furthermore, concern was expressed that GISN lacks transparency and equity.

*Topics for 2008 – Oversight, education, awareness raising, and adoption and/or development of codes of conduct*

Work on this agenda-item began with a discussion of the problem of education and awareness raising in the scientific community. Drawing on the results of a series of

seminars that had been conducted with life scientists across several countries around the world, it was pointed out that there is little evidence of awareness among life scientists of the dual-use nature of their research. It was urged that there is a need for awareness-raising in all states.

Several recommendations were made to raise awareness among life scientists. One suggestion was to encourage and foster a sense of responsibility among life scientists analogous to the situation with physicists and the anti-nuclear movement. However, concern was expressed that a top down approach by governments was needed to encourage life scientists to take ownership of the problem. For example, it was argued that while physicists have been embedded in military science for a long time, life scientists see the problem of BW as being external to them. Even a terrorist event using BW might not provide the desired 'wake-up call' since the event would not necessarily be perceived as having emerged from the scientific community

Other recommendations for awareness raising and fostering ownership of the problem were also discussed. The idea of an oath similar to the Hippocratic Oath in the medical profession was discussed, though it was felt that without consequences in the event of violation this would lack value. The need for control and government engagement was stressed. It was also suggested that registration of life scientists and a bottom-up approach based on mandatory educational modules might provide means to increase awareness and responsibility in the life sciences.

The next presentation continued the discussion of education and awareness raising from the perspective of the scientist. It was noted that the dual-use problem in the life sciences was complicated for several reasons:

- The dual-use dilemma is exacerbated by the fact that the threat of BW use can utilise material from natural origins and that detection, protection and treatment are based on the same science as hostile application.
- Despite the historical record of aggressive BW programs in the past, there remains a lack of awareness of the problem among life scientists.
- New dangers are constantly arising due to rapid advances in S&T where the results of the research and dual-use implications are often unpredictable.
- Transparency is hindered by the need for secrecy in defensive research.

It was argued that guidelines for the oversight of science do exist (for example, the Lemon-Relman Report) but that the problem is enforcing these guidelines. It was argued that bottom-up approaches are inadequate and that top-down mechanisms are necessary to force scientists to take responsibility. It was argued that ultimately the responsibility lies with the government to control what work is carried out.

Further arguments on the top-down versus bottom-up approach to awareness raising and responsibility in the life sciences were also made. It was suggested that no one single approach is adequate and that both processes (top-down oversight and bottom-up education) need to be in place. It was suggested that a better conceptualisation might be 'outside-in', ie, engaging scientists in the broader context of social ethical responsibility.

The next presentation considered the usefulness of codes of conduct for scientists. It was suggested that in order to improve their effectiveness, some mechanism needed to be in place in order for scientists to identify and report transgressions. However, it was noted that this type of whistle-blowing mechanism is also insufficient since it suggests that codes of conduct are a reactive rather than a proactive control measure. It was further argued that codes of conduct might be viewed as an 'easy option' for implementing a quasi-system of control which could get in the way of proper legal oversight.

Following from this theme, the next presentation offered a different conceptualisation of codes of conduct. It was argued that codes of conduct should be seen in three layers comprising:

- Guiding principles
- Codes developed by the scientific community
- Institutional or workplace codes

It was argued that all institutions conducting dual-use research should have a workplace code. Elements of the workplace code should include an awareness of the BWC, UN Security Council resolution 1540 (2004) and national legislation, as well as a personal commitment by scientists to report concerns in-house. It was also suggested that the recommendations for codes of conduct for chemists being developed by the International Union of Pure and Applied Chemistry (IUPAC) could offer useful parallels and convergences for developing codes of conduct for life scientists.

The final presentation in this session examined the role a national regulatory commission could play in establishing regulations and codes of conduct to ensure compliance with the BWC. It was argued that a national regulatory commission could also more efficiently coordinate and distribute funds for biodefence research. However, it was noted that increasing bureaucracy could be problematic.

#### *Enhancing Transparency of Programmes to Counter Deliberate Outbreaks of Disease*

Work on this topic began with a suggestion that transparency should be measured in terms of the willingness of facilities to release records of its activities, such as funding proposals, project reports, research protocols, safety documents, accident records, equipment logs and contracts. However, in discussion it was noted that, while this level of transparency might be deemed desirable, adequate transparency was achievable without this level of detail.

The next presentation suggested that transparency could be improved by extending the use of CBMs to cover any programs aimed at protecting against the deliberate use of biological agents hence including both biodefence programs and programs aimed at protecting against bioterrorism. It was also urged that the CBMs should include questions on codes of conduct for scientist in such programs and mechanisms for national oversight. However, it was felt that this measure would be insufficient to improve transparency given the limited participation of state parties in the CBM mechanism.

The following presentation examined the difficulties of enhancing transparency. It was noted that despite general agreement with governments and civil society that transparency in programmes to counter deliberate outbreaks is both an appropriate and important measure for effective control of BW, there is little consensus on how transparency should be achieved. It was suggested that clearer definitions about the goals and objects of transparency are necessary.

It was said that the growing secretiveness surrounding biodefence activities presents a problem for transparency. Furthermore, legitimate concerns about the potential hostile exploitation of biotechnology, and the realisation of the growing economic and strategic importance of biotechnology, generate incentives for states to be less transparent in order to protect national security and commercial interests. However, it was suggested that this type of hedging in regard to biodefence runs contrary to the logic of transparency. The aim of transparency is not to generate vulnerabilities but to help states constrain their own biodefence activities in the broader efforts against the hostile exploitation of biotechnology.

The final presentation given in this session addressed the United Nations Secretary-General's working group on the investigation on alleged use of chemical or biological weapons. It was reported that the first meeting of this working group had enabled a valuable exchange of information to take place. Further efforts are being developed.

### ***Confidence-Building Measures***

Work here began with an EU perspective on the future of CBMs. In 2006 the EU adopted an action plan to ensure that all member states of the EU fulfilled their obligations to file a CBM return each year. The EU is now in a position to display full participation in the CBM process. However, it was stressed that this success was only achieved as a result of an ongoing commitment to improve measures and mechanisms for CBMs and that pressure on local administrations needed to be maintained.

Questions were raised over the quality of the content of the CBMs since there is no assessment mechanism but it was said that while the returns contain variable information the average level of the content has not changed over time. Questions were also raised about the value of CBMs given that public access to CBM returns had been so heavily curtailed by the Sixth Review Conference and given, also, their limited participation by states parties to the BWC as a whole. However, it was noted that participation is growing and, furthermore, that the countries that are participating are major actors in the area of the life sciences.

The next presentation addressed the issue of consistency and completeness in CBM returns through a comparative analysis of data provided in the CBMs and open source data. The results of the analysis demonstrated that disease data is often not declared and, if it is, it is frequently found to be inaccurate and incomplete. It was noted that comparing data submitted in the CBMs with open source information is problematic

since an unusual outbreak as defined in the CBMs is not necessarily an outbreak relevant to Article I of the BWC.

It was recommended that the quality of the CBM returns could be improved by removing ambiguity over declarations (for example, distinguishing between non-events, information not being collected on events, or events not being reported). It was further suggested that declarations on events of biosecurity concern, such as accidents in biodefence facilities and incidents with weaponised biological material, should also be submitted under a new CBM form in the interests of promoting transparency and a clearer global picture of biosecurity-related events.

The final presentation discussed an NGO-provided CBM reader – a summary of the publicly available CBM data submitted in 2006 and 2007 – and its future role. In discussion, it was recommended that CBM data should be analysed in a constructive way to help states parties since critical analyses could deter them from making their declaration open access. On the other hand, it was also felt that state parties should be able to stand up to scrutiny. The need to be able to distinguish between good faith efforts and deliberate omissions was stressed.

### ***Promotion of Universalization***

On this topic, the workshop examined bottom-up (working with civil society constituencies) and top-down (working from government to government) approaches to encouraging universalisation of the BWC based on a series of regional seminars. It was observed that bottom-up approaches are useful for raising awareness, building linkages to participants' professional/personal background and building knowledge. However, it was also found that ownership of the issue was not taken up automatically. The top-down approach was found to be useful for raising awareness but created limited capacity building. Limited stakeholdership in the BWC was also observed among government agencies of non-states-parties.

It was observed that in a seminar experiment in which civil society and government were both targeted, active interaction was generated. It was suggested that interaction across the interface of government and civil society might be the source of claiming ownership. It was noted that interaction appeared to give focus and purpose to the meetings, and translated abstract goals into the need for concrete action. It was urged that promoting stakeholdership in government, parliament and civil society should be the primary goal for achieving universalisation.

Finally, the lack of saliency of Article X of the BWC among non-states-parties was noted. It was observed that the regulatory rather than promotional components of the BWC tended to be emphasised. It was also said that the needs and concerns of non-states-parties focus less on international cooperation, exchanges and technology transfer, etc, and more on basic information, concrete indicators of legal, economic, financial and human resource implications of joining the treaty and general capacity building of government agencies.

### ***Future Work***

The workshop concluded with some discussion on the future role of the Pugwash Study Group. It was suggested that if the Workshop agenda was limited to that of the intersessional process this might inhibit consideration of the bigger picture and in particular brain-storming about possible future developments to strengthen the Convention. It was observed that this Workshop was but a year after the Sixth Review Conference and that future Workshops would naturally be looking ahead to wards the Seventh Review Conference in 2011 and beyond.