

Thursday 3rd August 2023

## Review of scientific and technological developments - setting the scene

The topic for days five, six and seven of the Second Session of the Working Group (WG) on the strengthening of the 1972 Biological and Toxin Weapons Convention (BWC/BTWC) is 'Measures on scientific and technological developments relevant to the Convention'. This is topic (b) of those allocated. The eighth day of this session will be devoted to discussion on possibilities for a mechanism to enable a systematic review of scientific and technological (S&T) developments relevant to the Convention.

The Working Group is scheduled to convene in Geneva from 7 to 18 August 2023, as decided by the Ninth BWC Review Conference (2022). The First Session of the WG met during March 2023 to discuss organizational issues. Reports in this series from those meetings, together with reports from BWC meetings since 2006, are available from the links provided overleaf.

There are ever-changing contexts that the BWC has to operate within, of which the changes brought about through S&T developments are key. Rapid advances within the life sciences, as well as other areas such as engineering, have significant impact on potential benefits and risks in areas relevant to the BWC. Such advances provide previously unsurpassed opportunities for peaceful uses through development of innovative medical treatments and new ways to detect the spread of disease, for example. Yet they also create negative opportunities for hostile uses through novel techniques. Moreover, as well as the cutting-edges of S&T developments, the adoption of biological techniques within new technological areas has led to more widespread availability and knowledge of materials and processes that may have potential for both peaceful and hostile purposes.

There has been a recognition amongst a large number of BWC states parties that the changing S&T contexts require ongoing review and that the five-yearly process during Review Conferences has not been enough. This is a critical challenge as real world experience has shown that S&T developments proceed at a faster pace than the policy developments intended to monitor them, and if new risks or benefits are identified, to manage them. Hence the inclusion of this topic within the mandate of the WG.

Of all the topics allocated to the Working Group, the one on S&T developments is the one with the highest level of overlap and synergies with the other topics. For example, it impacts upon the operation of Article X on international cooperation and assistance; on Article VII responses to breaches of the Convention; and on national implementation. Moreover, better understandings of the developing S&T topics will be critical for compliance and verification under the Convention.

To assist with discussions, Grisselle Rodríguez (Panama), Peter Ahabwe/Musa Kwehangana (Uganda), Vincent Bodson (Belgium) and Ljupco Gjorgjinski (North Macedonia) have been appointed as facilitators on these issues.

### **Scientific and technological developments in context**

Processes and procedures for science advice within governments are a challenge across the world. The different perspectives that policy practitioners and S&T practitioners bring to discussions can bring clarification and guidance to many contemporary issues; yet those

same differences can hinder discussions as well as enlighten them. It is therefore crucial that appropriate arrangements for review of relevant S&T developments are developed. A key aspect is to ensure that there are trusted sources of advice for those who have to develop policies.

One of the challenges is that it is simply not enough to identify relevant S&T developments; once developments are identified, what are their implications? One illustration of the need for this two-level approach can be found in the contemporary discussions about artificial intelligence. It is clear this particular field has been the subject of tremendous advances in recent years and while some implications are readily apparent, it is clear that there are likely to be more that will emerge. The same is true for many developments in the life sciences. One example, much cited, is the CRISPR/Cas9 gene editing tool (often simply referred to as CRISPR) that is barely a decade old which allows for exact and accurate editing of genetic sequences.

### **Proposals relating to S&T development issues**

The widespread recognition for a number of years that there would be multiple benefits in reviewing S&T issues in a regular, consistent and ongoing manner has meant there have been many proposals for how a review might be carried out. The Meetings of Experts (MXs) in inter-sessional work programme between the Eighth and Ninth Review Conferences included one (MX2) dedicated to S&T issues which allowed more focused development of earlier ideas.

Many of the early proposals for arrangements to enhance review of S&T developments looked at one or other of two models. One model was or a panel selected in some way in order to create a board or committee. The other was to have a structure open to experts from all states parties willing to participate. These can be described as the 'selected' or 'open' models. Each approach has certain advantages and disadvantages. A small panel can be rapidly tasked to examine a new issue in depth and is the model for the Scientific Advisory Board created under the Chemical Weapons Convention. An open membership arrangement can encourage inclusivity with more direct links into national processes and has been used successfully in other issue areas. A selected panel would probably need financial resources to support it centrally whereas costs for an open membership model would be likely to fall on the states parties participating. More recently, many proposals have taken a hybrid approach that includes an open arrangement with some activities delegated to smaller panels.

The Ninth BWC Review Conference considered proposals for S&T review processes in some detail. However, the Review Conference faced considerable political challenges which made it hard to achieve consensus. In the last week of the Review Conference, as successive iterations of the sections on S&T review were being produced, more and more details were being removed. The Final Document is therefore sparse on this issue area and paragraph 19 reads: 'The Conference decides to develop with a view to establishing a mechanism to review and assess scientific and technological developments relevant to the Convention and to provide States Parties with relevant advice. In order for this mechanism to be established, the Working Group on the strengthening of the Convention will make appropriate recommendations.' In addition, the Ninth Review Conference added a staff post to the BWC Implementation Support Unit (ISU), the tasks for whom were not specified in the Final Document but which are understood to include S&T activities.

Working papers submitted to the WG Second Session have included proposals or discussion relating to S&T review. A working paper (WP.4) from the USA has been published and it is understood that further papers on this subject area are expected from other states parties.

*These reports have been produced by the BioWeapons Prevention Project (BWPP) for all BWC meetings with NGO registration since the Sixth Review Conference (2006). They are available from <<https://www.bwpp.org/reports.html>> and <<https://www.cbw-events.org.uk/bwc-rep.html>>. A subscription link is available on each webpage. Financial support for reporting for the Second Session of the Working Group has been gratefully received from Global Affairs Canada. The reports are written by Richard Guthrie, CBW Events, who is solely responsible for their contents <[richard@cbw-events.org.uk](mailto:richard@cbw-events.org.uk)>.*