

Tuesday 20th August 2024

## A return to scientific and technological developments: setting the scene

The topic scheduled for Thursday, the fourth day of the Fourth 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 to the WG by the Ninth BWC Review Conference (2022). The Conference considered proposals for review of scientific and technological (S&T) developments in some detail, while facing considerable political challenges. In the final week, as successive iterations of the proposed text on S&T review were being produced in attempts to achieve consensus, more and more details were being removed. The Final Document was therefore sparse on this issue area and para 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.’ While the agenda item for this Session is the overarching S&T topic, it is likely that the possibilities for a mechanism will be the focus of many discussions.

The official web page for this Session, hosted by the BWC Implementation Support Unit (ISU), can be found at <https://meetings.unoda.org/meeting/71781>.

### Discussions in the WG

These topics have been previously discussed during days five, six and seven of the Second Session of the WG. The eighth day of that Session was dedicated to discussion of a possible S&T review mechanism. A number of working papers were submitted to that session that highlighted relevant S&T developments. The three referred to most often in the plenary discussions were WP.4 (US), WP.8 (UK) and WP.12 (Iran). Of those focused on a possible mechanism, the three referred to most often in plenary were WP.9 (UK), WP.16 (Russia) and WP.19 (Iran). The official webpage for the Second Session that contains copies of these documents and other materials can be found at <https://meetings.unoda.org/meeting/67451>.

Reports 2023-11 and 2023-12 in this series covered the discussions in the Second Session and are available from the links provided overleaf. These include discussions on aspects of a possible S&T mechanism such as structure, appointment criteria, scope, selection of topics, outputs, oversight, and funding.

For the Fourth Session, as of Monday night, one working paper (WP.6) had been published on S&T issues. This was from the UK and highlights examples of S&T advances that state party considers relevant and worthy of review. Other working papers may be submitted. The Friends of the Chair on this topic circulated a non-paper on elements for an S&T mechanism to states parties in June. There are some square brackets in the non-paper which indicate areas where there does not yet appear to be consensus.

### Reasons for reviewing S&T developments

The understandings of the processes that underpin life change constantly as more research is carried out and new discoveries are made. This generates an ever-changing context that

the BWC has to operate within. Some developments are entirely peaceful. For example, some advances provide previously unsurpassed opportunities for development of innovative medical treatments and new ways to detect the spread of disease as well as many other possibilities. Some of the advances create negative opportunities for hostile uses through novel techniques. Some developments fall into both categories. Without an understanding of the S&T context, it is impossible to maintain controls over the use of disease as a weapon at either the national or international level.

Some of these challenges are amplified as the uses of biological techniques spread far more widely. There are multiple biological techniques that may be used and so it is often inappropriate these days to think of a 'biotechnology industry' rather than a range of industries that use biological techniques. This adoption of biological techniques has led to more widespread availability and knowledge of materials and processes that may have potential for both peaceful and hostile purposes.

### **The challenges of carrying out S&T reviews and the calls for a mechanism**

Science advice within governments remains challenging across the globe. The different perspectives that policy practitioners and S&T practitioners bring to discussions can provide clarification and guidance to many contemporary issues; yet those same differences can hinder discussions if there is not an effective process to bring them together. A key aspect is to ensure that there are trusted sources of advice for those who have to develop policies.

For many years, there has been a recognition amongst a large number of BWC states parties that the five-yearly process of briefly reviewing S&T developments during Review Conferences has not been enough. Article XII of the BWC, which deals with the role of Review Conferences, mandates 'Such review shall take into account any new scientific and technological developments relevant to the Convention.'

A key challenge is that identifying relevant S&T developments is not enough on its own – once developments are identified, what are their implications? This need to identify implications can perhaps best be illustrated by 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 tool (often simply referred to as CRISPR) that allows for exact and accurate editing of genetic sequences. What are the implications for regulation to prevent its hostile use?

Real-world experience has shown that S&T developments proceed at a faster rate than the developments in policy structures intended to monitor them, and if new risks or benefits are identified, to manage them.

Most of the past proposals for arrangements to enhance review of S&T developments looked at one or other of two models. One model was a panel, committee or board selected by some criteria to have a limited membership. 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. This is the basis of discussion in the non-paper from the Friends of the Chair.

*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. 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)>.*