

**Seventh Review Conference of the States Parties
to the Convention on the Prohibition of the
Development, Production and Stockpiling
of Bacteriological (Biological) and
Toxin Weapons and on Their Destruction**

11 October 2011

Original: English

Geneva, 5–22 December 2011

Item 10 of the provisional agenda

**Review of the operation of the Convention
as provided for in its Article XII**

**Strengthening biosafety and security while the convergence
of biology and chemistry has increased: building joint
responses between the BTWC and CWC regimes against
misuse of biological and chemical agents**

Submitted by Poland

**I. Convergence between biology and chemistry poses new
challenges for the international regimes banning,
respectively, biological and chemical weapons**

1. Attempts by non-state actors, such as criminals and terrorists, to produce or acquire biological and/or chemical agents to be used as weapons remain a threat to the international community. This threat highlights the requirement to enact and enforce effective controls regarding the manufacturing, storage, transfer and use of dual-use biological agents, chemicals, and equipment. To effectively achieve this requires a holistic approach which recognises the need to develop appropriate and effective national and international regulatory mechanisms for prevention of and preparedness against misuse of biological agents and chemicals, where steps to enhance bio-chemical safety and security will be essential.

2. Science and technology have made rapid progress and is increasingly being available to countries across the globe. The convergence between biology and chemistry poses new challenges for the international regimes prohibiting biological and chemical weapons. Globalization and the resulting global spread of the chemical industry, emergence of bio-chemical industry, as well as increase in trade of biological and chemical agents, are creating a new environment for the development of international and national control measures where bio-chemical safety and security issues will play a prominent role.

3. In this ever-changing world, it will be important for the BTWC and CWC regimes to maintain relevant and to ensure that they pose effective barriers against misuse of biological agents and chemicals for prohibited purposes. Therefore we have to ask some key questions:

(a) As biology, chemistry and enabling technologies are converging, what are the consequences for the international system of disarmament and non-proliferation?

(b) Do the measures taken by States Parties to implement the obligations of the BTWC and CWC adequately cover the changing circumstances due to the development in science, technology and industry related to emerging bio-chemical production and technologies?

(c) How useful to the States Parties is the BTWC and the CWC review mechanism as forums for consultation and cooperation to address these new challenges, including such fields as bio-chemical safety and security?

(d) How to engage the relevant national and international stakeholders from bio-chemical facilities in the process of strengthening the BTWC and CWC disarmament and non-proliferation regimes?

II. Convergence of biology and chemistry: implications for the BTWC and CWC regimes

4. Important work has been conducted by the OPCW in the area of convergence of biology and chemistry. At the successful OPCW seminar on the OPCW's contribution to security and the non-proliferation of chemical weapons (The Hague, 12-13 April, 2011), one of the core subjects was the issue of the convergence of biology and chemistry and the implications for the effectiveness of regime of the CWC. The seminar confirmed that the rapid advances of science and technology and in particular the convergence of biology and chemistry may have legal as well as practical implications at the interface between the regimes of the CWC and BTWC. Two fundamental aspects of the convergence of biology and chemistry are particularly relevant. First, biology-based technologies provide new means for producing "old" organic chemicals which raises the question of whether the facilities that utilize biological processes for the manufacturing of organic chemicals should in any event be covered by verification measures under the CWC in the future. Second, biologically highly active compounds, such as toxins and bio-regulators, increasingly can be produced in large amounts through chemical synthesis or biological process. The concern was raised that the combination of new drugs discovery and more efficient means of production and delivery may increase the potential for the development of new types of incapacitants and chemical warfare agents.

5. While the scientific and technological development is rapid and very dynamic, the response from the legislative and arms control community tends to be slow and run separately from this development. The aspects of bio-chemical security are hardly present at these discussions. To ensure that the norms of the BTWC and CWC are not eroded by new developments, a process of analysis should be initiated so as to better understand the consequences of the convergence of biology and chemistry for the existing norms against both biological and chemical weapons and what measures in bio-chemical security could be introduced.

6. In this new environment of convergence between biology and chemistry, there is a growing need to develop appropriate and effective national and international regulatory mechanisms in bio-chemical safety and security.

III. Building joint responses between BTWC and CWC regimes against misuse of chemical and biological agents

7. Since the convergence between chemistry and biology is now a reality and the development of effective bio-chemical security measures becomes a priority, the BTWC and CWC review mechanism should combine efforts. The BTWC and CWC review mechanism should seek and engage actively the relevant stakeholders engaged in the building of national bio-chemical safety and security measures. The BTWC and CWC review mechanism should further combine their potential to develop the roles of BTWC/CWC as a platform for raising awareness, disseminating best practices and training on the areas of bio-chemical safety and security.

8. BTWC and CWC mechanisms should assist States Parties in the prevention of, preparedness for and response to misuse of chemical and biological agents. They should facilitate collaboration between States Parties and relevant international and regional organisations, national agencies and institutions for the provision of effective training and the conduct of table-top and field exercises to further enhance the preparedness of the States Parties to counter threats related to biological and chemical agents. We should cooperate more with bio and chemical components of CBRN units of the relevant States Parties.

9. Relevant Articles on cooperation and assistance within BTWC and CWC provide mechanisms to support national capacities of the States Parties to deal with threats or incidents involving the misuse of chemical and biological agents. Capacity building in the field of national implementation, assistance and protection against chemical and biological agents requires engagement and cooperation of different national agencies and support of international partners.

10. As leading international mechanisms in the area of biological and chemical non-proliferation, and with close contacts to all the relevant national and international stakeholders, the BTWC and CWC review mechanism are well-placed to serve as a meeting ground for governments and bio-chemical industry and science to discuss concerns related to bio-chemical security.

IV. A platform for raising bio-chemical security issues between the BTWC and OPCW communities

11. The BTWC Review Conference should offer a possibility to raise the level of discussion on the issues related to convergence between biology and chemistry, including effective national and international regulatory mechanisms in bio-chemical safety and security. The BTWC Review Conference should also broaden the debate by engaging into dialogue with the OPCW community and including the growing community of relevant actors in bio-chemical safety and security, including government, industry and academia.

12. Convergence between biology and chemistry could be addressed in new intersessional work on national implementation, under discussion on improving biosafety, biosecurity and assistance on these issues. That process should gather the BTWC, OPCW communities, specialists in the field of bio-chemical safety and security and representatives of bio and chemical industry. The implications of the convergence of chemistry and biology should be also considered as an important factor in the review process of science and technology development.

13. It is proposed to organise, on the margins of the BTWC Review Conference, an open forum between the BTWC and OPCW communities on the issues related to

convergence of biology and chemistry: implications for the BTWC and CWC regimes from the perspective of bio-chemical safety and security.
