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# REVISITING BWC VERIFICATION

## Information-sharing

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Policy Brief 3 of 7 August 2018

## The exchange of information under the BWC

Information-sharing is at the core of the BWC. The Convention's Confidence-Building Measures (CBMs) constitute the main, formal mechanism whereby states parties exchange information on a regular basis. Submitted annually, the set of six agreed forms (CBMs A-F) is comprehensive in scope. Information is requested on biodefence programmes including their objectives and funding, the principal research and development activities, the facilities involved, the organisational structure and the reporting relationships of the facilities, and details of any sub-contracted parties from industry, academia or other non-defence institutions. The forms also cover information on maximum containment facilities outside defence, the national oversight framework implementing the treaty and regulating biological research, published articles or reports detailing results from research directly related to the Convention, unusual outbreaks of infectious diseases, vaccine production facilities, and details of any past offensive and/or defensive activities.

Anchored in Article V on consultation and cooperation, the CBMs emerged in the early 1980s. The measures were agreed at the Second Review Conference in 1986, elaborated at a meeting of scientific and technical experts in 1987, and modified and considerably expanded at the Third Review Conference in 1991. They were conceived, developed, and agreed upon at a time when it seemed plausible that a verification mechanism was going to be put in

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place that resembled the declarations and on-site inspections of the Chemical Weapons Convention (CWC) then under negotiation. The measures were therefore not conceived of as a verification tool, but merely as a layer within a larger "regime of compliance."[1] The work of the Ad Hoc Group to develop a Verification Protocol to the BWC resulted in less attention to further developing the CBMs in the 1990s. The CBMs have, however, remained a recurring topic under the intersessional work programmes since 2003. The Sixth Review Conference in 2006 agreed on various improvements to the mechanism for submission and distribution of CBMs, but political differences meant the CBMs remained substantively unchanged until minor modifications to the reporting forms were adopted at the Seventh Review Conference in 2011.

## Declarations under the Protocol

The legally binding declarations envisaged under the BWC Protocol were developed around the CBMs. Article 4 of the Protocol (Declarations) required each state party to make two types of declarations: initial declarations and annual declarations.

Initial declarations were required on (1) any offensive biological weapons programmes and activities conducted prior to entry into force of the Convention for each state party, including information on relevant facilities and any use of biological weapons, and (2) any defensive programmes and activities against biological weapons conducted at any time 10 years before entry into force of the Protocol. These initial declarations correspond with CBM F. For past offensive programmes, aimed at developing and producing biological weapons, CBM F requires states parties to summarise past research and development activities indicating whether work was performed concerning production, test and evaluation, weaponisation, stockpiling of biological agents, the destruction programme of such gents and weapons, and other related research. For past defensive programmes, aimed at developing measures for protection against biological weapons, CBM F requires states parties to summarise past research and development activities indicating whether or not work was conducted in the following areas: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination, and other related research, with location if possible.

Annual declarations were required under the Protocol on defensive programmes and activities against biological weapons

conducted during the previous year. These declarations were to include:

- A summary of general objectives and main elements.
- A summary of research and development on prophylaxis, pathogenicity, virulence, diagnostic techniques, detection, aerobiology, medical treatment, toxinology, physical protection and decontamination, and aerobiology testing and evaluation.
- Facilities conducting research and development on pathogenicity, virulence, aerobiology or toxinology.

**Listed agents in the Protocol included among others:**

- Ebola virus, Variola major virus (Smallpox virus), Foot and mouth disease virus, Rinderpest virus
- Bacillus anthracis, Yersinia pestis, Francisella tularensis, Burkholeria mallei
- Botulinum toxins and Shigatoxins

- All maximum biological containment facilities.
- All high biological containment facilities exceeding 100 $m^2$ that: (a) produce vaccines; (b) produce microorganisms or microbially produced substances for public sale using >300L fermenters or fermenters with a flow rate exceeding 50L an hour, using more than 15,000 embryonated eggs annually, or using 10,000L of tissue culture or other growth media annually; (c) produce biocontrol agents or plant inoculants using >300L fermenters or fermenters with a flow rate exceeding 50L an hour, or using 10,000L of tissue culture or other growth media annually; or (d) genetically modify 'listed agents' (see box) to create novel agents or agents with increased disease causing properties.
- All plant pathogen containment facilities exceeding 100 $m^2$.
- All facilities conducting activities with listed agents that: (a) produce listed agents using >50L fermenters, fermenters with a flow rate exceeding 2L an hour, >50L chemical reaction vessels, more than 2,000 embryonated eggs annually, or 1,000L of tissue culture or other growth media annually; (b) genetically modify listed agents to create novel agents or agents with increased disease-causing properties; or (c) intentionally aerosolise listed agents in explosive aerosol test chambers, in >5m3 aerosol test chambers, in the open air, or by application of aerosolised particles to the respiratory tract of a significant number of animals per year.

Of the annual declarations in the Protocol composite text, the current biodefence declarations correspond to CBM A part II; maximum, high and plant pathogen containment declarations link back to CBM A part I; production facility declarations link back to CBM G; and information about legislation (CBM E) and outbreaks of disease (CBM B) remained CBMs under the Protocol (Article 15). Promotion of contacts and knowledge (CBM C) was inherent to Article 14 of the Protocol (Scientific

and technological exchange for peaceful purposes and technical co-operation).

Article 5 of the Protocol (Measures to ensure submission of declarations) listed penalties for not submitting declarations. These included withdrawing access to: declarations of other states parties; the declaration clarification procedure and facility investigation; technical assistance; consultation, clarification and co-operation provisions; voting in conferences of states parties; membership of the Executive Council.

## The way forward

While the information requested on contemporary CBMs is not identical to that requested in the Protocol declarations, it is broadly similar. Some of the key wording is even duplicated, such as the particular areas to be covered in the research and development summary.

While the Protocol relied more heavily on specific sizes and quantities (e.g. 100 $m^2$, >300L, 2,000 eggs) as criteria for including certain facilities in the annual declarations of defensive programmes, advances in science and technology have meant that these means of assessing dual use risks have to some extent become outdated. They are not the inclusion criteria used in contemporary CBMs, which rely instead on assessments of programme objectives and the particular activities undertaken. The CBMs require more specific information than the Protocol in certain areas, in particular regarding funding sources, organisational structures and reporting relationships, contracted parties and facilities, and publication policies.

To fulfil the Protocol intentions on declarations and to move information-sharing forward in the near term, all states parties must, as a first step, submit complete and accurate CBMs on an annual basis. The habit of disclosure sets up expectations of openness, provides a baseline of typical national activity, normalises oversight, and in general makes for a less dangerous condition of uncertainty. Efforts by an increasing number of states to further increase the transparency of their information-sharing by making their CBM submissions publicly available is another step in the right direction. More than 30 states make their confidence-building measures publicly available; some 40 states still restrict access to their submissions.

A more mid-term step would be to strengthen the CBM mechanism through

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substantive revisions of the reporting forms and the CBM process as a whole. The Protocol declarations should certainly be drawn on here. For instance, the biodefence declaration under the Protocol did not adopt a one-size fits all approach; the declaration asked less of states with small programmes than it did of states with large programmes. This differentiation and the principle that the scope and the size of the activities entail different obligations for certain states parties could form a useful starting point in revising CBM A part II. More ambitious revisions could include a variation on the penalties in the Protocol for not submitting declarations.

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Since the work of the Ad Hoc Group on the Protocol, there have, however, been significant changes in the scientific, technical, geopolitical and security contexts. These would need to be recognised and reflected in any revisions of the CBM mechanism. One of the key developments here is the increasing expansion of 'grey zone' biodefence activities – the area between defensive and offensive work where perceptions may differ regarding what qualifies as defensive or offensive.[2] The increasing expansion of 'grey zone' activities warrants more emphasis in the CBMs on proactive disclosure of information, more substantive rationales and justifications, and better communication of the intent of biodefence projects or programmes, particularly for those with high potential for misuse.

## Endnotes

1. Sims N.A. (2001) *The Evolution of Biological Disarmament.* Oxford: Oxford University Press.

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