

# Individual NGO Statement to Biological Weapons Convention

## Meetings of States Parties

Geneva

22 November 2021

Mr Chair, Distinguished Representatives:

Thank you for providing the opportunity for the NGO community to make individual statements.

Mr Chair,

The way science is practiced is changing. Broader community groups work in these spaces due to declining costs and more accessible community facilities. The Life Sciences are becoming more integrated within the cyber domain – as laboratories become more internet-connected and scientific research more computer-dependent.

At the same time, we live in an increasingly health-centred global economy but one in which security is often overlooked, and one in which forecasting biological misuse remains a challenge.

The scale of identified and predicted biological misuse is unknown and is expected to be more sophisticated in the future. Yet the discussion of security implications is often limited to siloed expertise from traditional professions and there has been limited engagement with diverse communities.

For a successful Ninth Review Conference next year, and the subsequent intersessional process, we must act now to strengthen the BWC. There are two areas in particular that, as part of the NGO community, I have endorsed, and that I would like to expand on with this statement.

- The first, is the need for BWC States Parties to ensure that they have **communication channels open to the non-institutionalised amateur community**, that is crucial to building a culture of safe, secure and responsible research. While there have been a lot of efforts towards engaging youth / young scientists / students through organisations such as iGEM, hidden populations remain un-engaged. It is important to define “scientific communities” here to include “non-traditional” groups, such as citizen scientists or community laboratories. These non-traditional experts have technical experience in either innovating, developing or using biotechnologies, may or may not have professional or academic qualifications, and practice science outside the traditional institutional premise.

- Considering approaches taken in different countries, there is currently no clear communication channel, reporting system or engagement pathway with non-traditional experts in (say) the United Kingdom. This contrasts with the model adopted in the United States (US), where the FBI engages directly with, and sponsors, community laboratories and their activities. The inclusion of non-traditional experts in the iterative process of identifying and mitigating vulnerabilities may contribute to the prevention of biological and biotechnology misuse and is worth pursuing in countries outside of the US, and internationally.
- Following this, the second point, I would like to expand on, is that the Convention needs a **mechanism to systematically monitor and review developments in science and technology**. As the joint NGO statement noted, a hybrid process takes full advantage of the benefits that the limited-participation and open-ended models have to offer. The views expressed by expert groups or forecasting exercises will only inform future biosecurity and public health policy for a limited time horizon because things are changing at such pace. There is a need for a complimentary experimental framework that is coupled with practical suggestions. I wish to suggest the possibility of a mechanism for identifying potential biological or biotechnology misuse through a continuous course of inquiry. For this, I encourage State Parties to consider implementing a **red-teaming mechanism** that consists of an event that brings domain experts of both traditional and non-traditional professions, as noted previously, to collaborate intensively. Red teaming is an experimental approach of testing a target system and the extent of its security, to report any found weakness with the aim to develop instruction for its remedy<sup>1</sup>.
- This event can be held multiple times in a year and can focus on various emerging biotechnology tools, devices and systems. Invited experts are at the forefront of their field and can share prospects and challenges of the technology under investigation. The experts form “cross pollinated” groups, mixing traditional and non-traditional technical expertise and backgrounds. In the first part, the experts challenge assumptions, crowdsource ideas and collective intelligence of the biotechnology or area of interest, through scenario building exercises. In the second part, experts are asked to identify possible future exploits of the biotechnology or area assessed, while also generate ideas to prevent misuses of it. In doing so, the mechanism captures current and nuanced opinions of diverse field experts, while also generating detailed prototyping proposals.
- A Scientific Advisory Board can review the experts’ proposals to deliver a relevant policy briefing. The United States, for example, has argued that a mechanism should “produce useful products written in plain language”. I encourage State Parties to distil technical discussion into accessible policy-friendly materials – as we have piloted with our policy briefing, Synthetic Biology and Future Crime<sup>2</sup>.

Mr Chair,

Biological misuse at the intersection of the cyber / life science domains and its classification will have to be considered carefully, as it may currently be under-reported, and its forms may

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<sup>1</sup> Palmer, C.C., 2001. Ethical hacking. *IBM Systems Journal*, 40(3), pp.769-780.

<sup>2</sup> <https://www.ucl.ac.uk/jill-dando-institute/research/dawes-centre-future-crime/policy-briefs>

be unknown or undetectable. Biotechnology is not constrained to borders and will be exploited by criminals regardless of country. In common with this, the inherent (and ongoing) challenge of unlocalised threats within cyberspace persists, both in terms of identifying the origin of the attack and the attacker's non-geographic cyber-identity. Similar issues may increasingly emerge for biological threats and consideration should be given to how to deal with such issues.

A red-teaming mechanism aims to proactively identify early warnings and integrate elicited opinions from diverse field experts. This – or a similar– mechanism can be used to aid national and international security decision-making for risks on emerging technology<sup>3</sup>, including biotechnology, and has been recognised and published by the UK's National Security Machinery First Report<sup>4</sup>.

Mr Chair,

I thank you for your attention.

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<sup>3</sup> Elgabry, M. (2021) Written Evidence Submission to the UK Joint Committee on Biosecurity and National Security. Available at: <https://committees.parliament.uk/writtenevidence/26765/html/>

<sup>4</sup> Joint Committee on the National Security Strategy (2021) The UK's national security machinery First Report of Session 2021–2. Available at : <https://publications.parliament.uk/pa/jt5802/jtselect/jtnatsec/231/231.pdf>