

**AFTER THE PANDEMIC:
THE ROLE OF INNOVATIVE
AWARENESS-RAISING AND
EDUCATION IN THE BTWC
S&T REVIEW MECHANISM**

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1. The Importance of Awareness-Raising and Education about the BTWC

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13. The Conference **notes the value** of national implementation measures, as appropriate, in accordance with the constitutional process of each State Party, to:

(b) encourage the consideration of development of appropriate arrangements **to promote awareness** among relevant professionals in the private and public sectors and throughout relevant scientific and administrative activities;

(c) **promote** amongst those working in the **biological sciences awareness** of the **obligations** of States Parties under the **Convention**, as well as relevant **national legislation and guidelines**;

(d) **promote the development of training and education programmes** for those granted access to biological agents and toxins relevant to the Convention and for those with the knowledge or capacity to modify such agents and toxins;

(e) encourage the promotion of a **culture of responsibility** amongst relevant national professionals and the **voluntary** development, adoption and promulgation of **codes of conduct** (emphases added).

2. Codes of Conduct under the BTWC

- China and Pakistan (2018) *Proposal for the Development of a Model Code of Conduct...* BWC/MSP/2018/MX.2/WP.9.
- Netherlands (2008) *Development of a Code of Conduct on Biosecurity.* BWC/MSP/2008/MX/WP.8.
- Russia (2005) *Basic Principles (Core Elements) of the Codes of Conduct of Scientists Majoring in Biosciences.* BWC/MSP/2005/WP.2.
 - “Scientists should:
 - (i) Be well informed of, and apply in their practice, international and national regulatory legal instruments on the prohibition of biological and toxin weapons...”

3. The Lack of Awareness and Education

- Australia (2005) *Raising Awareness: Approaches ...* WP.29
- “...Introducing Codes of Conduct that highlight these issues is an important step in raising awareness. **However, it is not enough simply to put such Codes in place. Without effective measures to educate scientists about the existence and importance of such Codes, attitudes and awareness will remain largely unchanged.**” (emphasis added).
- Tim Sterns (2017) Invited paper for US National Academies Report on *Dual Use Research of Concern in the Life Sciences*
- “...the **Department of Biology at Stanford University covers most of modern biology, from structural biology to global ecosystems. From interactions with my colleagues, I believe that very few of the more than 50 faculty in the department are aware of the NSABB and efforts to manage DURC [Dual Use Research of Concern], other than incidental knowledge from news stories in the science journals...**” (emphasis added)

4. Successful Educational Projects

- Biosecurity courses are difficult to construct as they combine science, social science and humanities (ethics), but there have been successful projects.
- Successful programmes have been constructed, but replication is difficult.
- Whitby, S. *et al* (2015) *Preventing Biological Threats: What You Can Do*, University of Bradford.
- Novossiolovala, T. (2015) *Biological Security Handbook: The Power of Team-Based Learning*, University of Bradford.
- Ukraine and UK (2016) *Awareness-raising, Education, Outreach: An Example of Best Practice*. BWC/CONF.VIII/WP.10, United Nations, Geneva; Ukraine, Japan and the UK (2017) *Awareness-Raising, Education and Outreach: Recent Developments*. BWC/MSP/2017/WP.22, United Nations, Geneva.

5. Engaging Scientists in Biological Security

- ***Aim:*** to produce something that scientists will find interesting and which they can use over a long period without further input from us.
- ***Consideration:*** scientists use illustrative material in their own communications all the time – graphs, histograms, pie charts, diagrams, flow charts, photographs and even graphical abstracts of their papers in key journals.
- ***Conclusion:*** Why not produce a set of cartoons covering key biological security concepts with a little humour, translate them into many languages and make them freely available to download from the web?

6. The Set of Cartoons



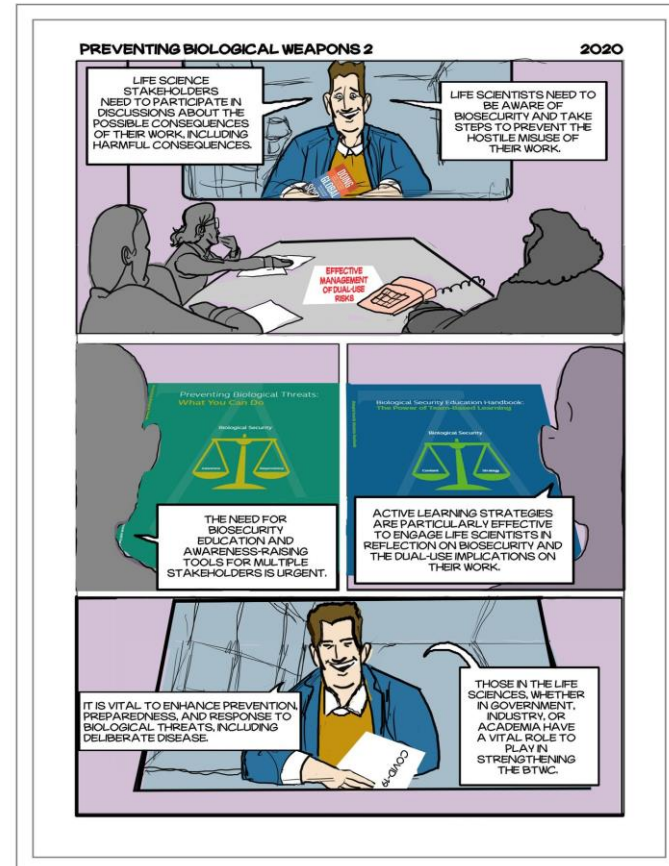
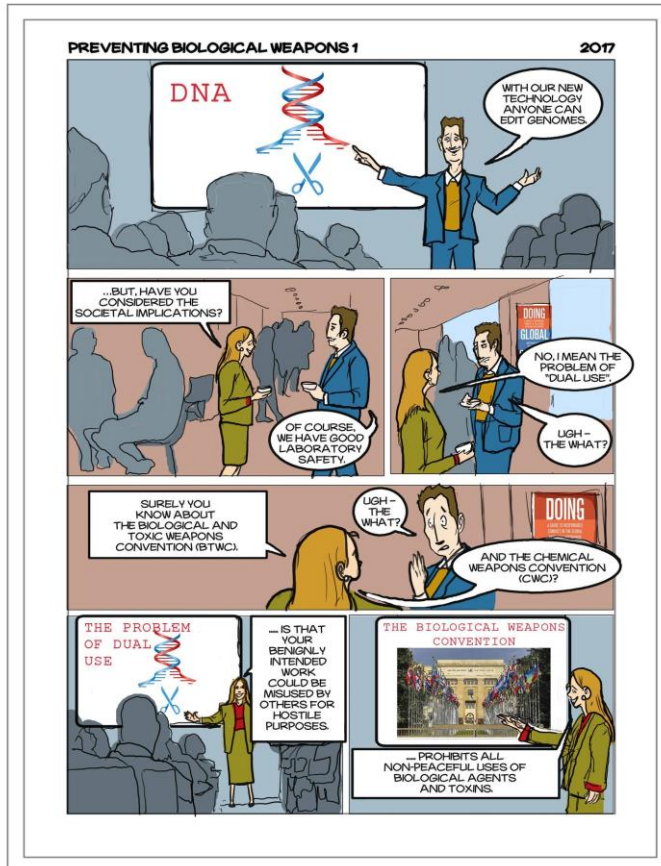
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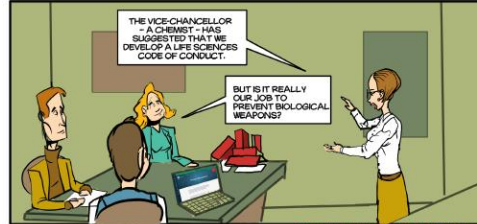


7. Preventing Biological Weapons

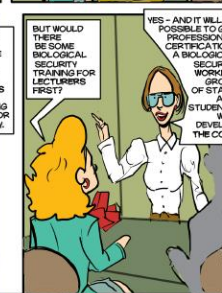
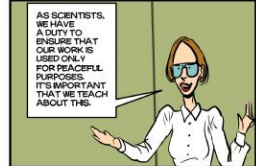


8. Examples of Different Cartoons

CODE OF CONDUCT 2



*<https://www.scfr.org.uk/ethics-guidelines>



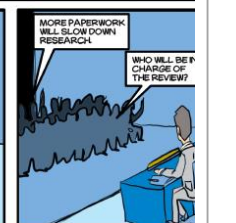
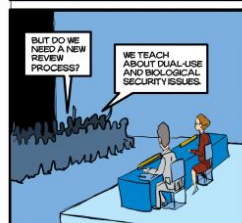
EDUCATION AND AWARENESS



COMMITTEE MEETING HELD EARLIER

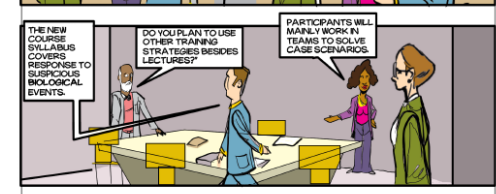
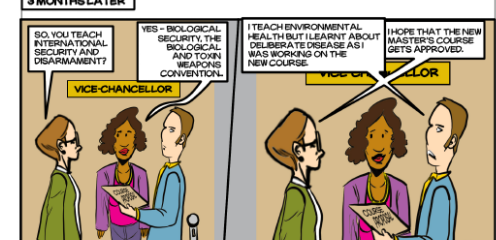


EVALUATION 1



INTEGRATION 2

3 MONTHS LATER



9. Acknowledgements and Links

- Cartoonists
 - Myrto Gkiouli, Dimitris Efstratiadis
- The Translators
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- Funding
 - UK Research and Innovation Strategic Priorities Fund and HEIF Rescaling Fund through London Metropolitan University (LMU)
- Link to cartoons at LMU Biological Security Research Centre (BSRC)
 - <https://www.londonmet.ac.uk/research/centres-groups-and-units/biological-security-research-centre/>