

**MEETING 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**

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**2008 Meeting  
Geneva, 1-5 December 2008**

**Meeting of Experts  
Geneva, 18-22 August 2008**  
Item 6 of the provisional agenda  
**Consideration of oversight, education,  
awareness raising, and adoption and/or  
development of codes of conduct with the  
aim of preventing misuse in the context  
of advances in bio-science and bio-technology  
research with the potential of use for  
purposes prohibited by the Convention**

**EDUCATION, OUTREACH AND RAISING AWARENESS**

Submitted by the Implementation Support Unit

*Summary*

This background document surveys activity related to education, outreach and raising awareness of the Convention and of biological weapons in general. It examines previous agreements and undertakings by BWC States Parties on these topics, as well as education, outreach and awareness-raising activities undertaken by the Organisation for the Prohibition of Chemical Weapons and the International Atomic Energy Agency in the chemical and nuclear fields respectively. It then reviews BW-related education and awareness-raising activities in scientific, professional and academic associations, bodies and institutions, as well as relevant publications.

## **I. Previous agreements and understandings on education, outreach and raising awareness**

1. Article IV of the Convention requires each State Party to "take any necessary measures to prohibit and prevent the development, production, stockpiling, acquisition, or retention" of biological weapons "within the territory of such State, under its jurisdiction or under its control anywhere". Accordingly, many States Parties have adopted national legislation and regulations to implement the prohibitions of the Convention. But in their consideration of Article IV, successive review conferences have also recognized the value of a number of additional measures to promote the effective implementation of the Convention nationally, including integration into education; outreach; and raising awareness (as well as codes of conduct, which are dealt with in background information document BWC/MSP/2008/MX/INF.2).

### Integration into education

2. The Second, Third and Fourth Review Conferences noted the importance of the "inclusion in textbooks and in medical, scientific and military education programmes of information dealing with the prohibitions and provisions contained in the Biological and Toxin Weapons Convention and the Geneva Protocol of 1925."<sup>1</sup> The Sixth Review Conference went further, not only calling for "the inclusion in medical, scientific and military educational materials and programmes of information on the Convention and the 1925 Geneva Protocol" but also urging States Parties to "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".<sup>2</sup>

### Outreach and raising awareness

3. The preamble to the Final Declaration of the Sixth Review Conference recognized that "achieving the objectives of the Convention will be more effectively realized through greater public awareness of its contribution, and through collaboration with relevant regional and international organizations, in keeping within their respective mandates"<sup>3</sup>. This concept was further developed during discussions on national implementation in 2007. The 2007 Meeting of States Parties recognized the importance of "raising awareness of the Convention among all relevant stakeholders, including policy makers, the scientific community, industry, academia, media and the public in general, and improving dialogue and communication among them."<sup>4</sup> The Meeting of States Parties also recognized the value of outreach and awareness-raising activities at the regional and sub-regional levels, encouraging States Parties to "include implementation of the Convention on the agendas of regional meetings and activities, including ministerial and high-level regional consultations."<sup>5</sup>

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<sup>1</sup> Final Document of the Fourth Review Conference, BWC/CONF.IV/9, art. IV, para. 3 (c). Slightly different wording in the Final Document of the Second Review Conference, BWC/CONF.II/13, art. IV, para. 4 (c), Final Document of the Third Review Conference, BWC/CONF.III/23, art. IV, para. 3 (c).

<sup>2</sup> Final Document of the Sixth Review Conference, BWC/CONF.VI/6, article IV, para. 14.

<sup>3</sup> Final Document of the Sixth Review Conference, BWC/CONF.VI/6, preamble, para. (x).

<sup>4</sup> Report of the 2007 Meeting of States Parties, BWC/MSP/2007/5, para. 21.

<sup>5</sup> Report of the 2007 Meeting of States Parties, BWC/MSP/2007/5, para. 24 (iii).

## II. Education and awareness-raising activities in intergovernmental organizations

### Organisation for the Prohibition of Chemical Weapons (OPCW) and the International Union of Pure and Applied Chemistry (IUPAC)

4. In 2002, IUPAC undertook an evaluation of scientific and technological advances relevant to the operation of the Chemical Weapons Convention (CWC). This evaluation included a recommendation that greater efforts are required in education and outreach to the worldwide scientific and technical community to increase awareness of the CWC and its benefits. In 2004, the President of IUPAC and the Director-General of the OPCW agreed on a proposal for a joint project on chemistry education, outreach, and the professional conduct of chemists.

5. This led to a joint IUPAC/OPCW international workshop held in Oxford in 2005. The event brought together 27 participants from 18 countries. The participants discussed aspects of chemistry education and outreach such as target audiences; what should be communicated and how; and strategies for implementation in the short and long term. A full report of the background, the presentations, the discussions, the outcome of the workshop and the recommended steps to further chemical education and outreach in regard to the obligations of the CWC is available under the title **Education, outreach, and codes of conduct to further the norms and obligations of the Chemical Weapons Conventions - IUPAC Technical Report**<sup>6</sup>.

### International Atomic Energy Agency (IAEA)

6. The IAEA has developed an education and training strategy to reach a broad range of target audiences, including experts in the field, policy-and-decision-makers, opinion formers and the media, civil society and the general public<sup>7</sup>. The Agency provides fellowships, seminars and workshops for relevant officials from member states, as well as internships to train graduates from relevant academic institutions. The IAEA has also produced various publications and databases: the "Education, Training, & Related Resources" section of the IAEA website<sup>8</sup> provides links to handbooks, manuals, glossaries, pamphlets and brochures, e-learning and educational tools, and training web pages.

7. In order to develop its public information and outreach policy, the IAEA is seeking to improve access to information with videos and films, scientific exhibits, internships and briefings. The Agency also engages in a range of direct outreach activities with member states, intergovernmental organizations, the private sector, the media, professional associations, academia and non-governmental organizations.

8. Another important educational resource administered by the IAEA is the International Nuclear Information System (INIS). INIS was established in 1970 under the IAEA's mandate "to foster the exchange of scientific and technical information on peaceful uses of atomic

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<sup>6</sup> Pure and Applied Chemistry, Volume 78, No.11, pp. 2169-2192, 2006, OPCW.

<sup>7</sup> "International Atomic Energy Agency: Activities Relevant to Disarmament and Non-Proliferation Education", Note by B. Andemicael, IAEA Representative, check the link <http://disarmament.un.org/education/docs/iaea.pdf>.

<sup>8</sup> <http://www.iaea.org/Publications/Training/index.html>.

energy". The mission of INIS is to "**create a reservoir of nuclear information for current and future generations, to provide nuclear information services to Member States and to assist with the development of a culture of information and knowledge sharing.**"<sup>9</sup> INIS is based on international cooperation, with 119 IAEA member states and 23 international organizations participating. Although INIS is operated by the IAEA, the Agency plays a dual role: it is an INIS member and also functions as the INIS Secretariat.

9. INIS products include a bibliographic database, a collection of non-conventional and full-text documents, and the INIS multilingual thesaurus. Although INIS is based on international cooperation, it operates in a decentralized way: representation in the system is at governmental level, with national INIS centres responsible for all related activities in a country, including collecting relevant literature and disseminating output products. This decentralized system allows wide coverage of national nuclear-related literature, overcomes cultural and language obstacles, and gives to every member the right to access all other members' information.

### **III. Education and awareness-raising activities in scientific, professional and academic associations, bodies and institutions**

#### The National Academies (USA) and the American Association for the Advancement of Science

10. The National Academies and the American Association for the Advancement of Science co-sponsored a public meeting on 8-9 September 2005, titled **Education and Raising Awareness: Challenges for Responsible Stewardship of Dual Use Research in the Life Sciences**<sup>10</sup>. The meeting brought together scientists, academics and policy-makers to share information about their work and explored ways to engage the broader research community most effectively. The meeting covered: the challenges and opportunities for raising awareness; the wide range of audiences, goals and methods; how to frame the issues; the potential misuse of biotechnology; the roles of codes of conduct and ethics; the BWC intersessional process; and ideas for further activities in the future.

#### British Medical Association (BMA)

11. In October 2004, the BMA published **Biotechnology, Weapons and Humanity II**<sup>11</sup>, a report describing the global community's ability to cope with advances in biological and genetic weapons technology<sup>12</sup>. The report was intended "to raise awareness about the threat of biological weapons amongst doctors, other health professionals, the public and the government". Key recommendations of the report included:

- (i) Scientists should be aware of the risks associated with the rapid advances in biotechnology;

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<sup>9</sup> <http://www.iaea.org/inisnkm/inis/aboutinis/overview.htm>.

<sup>10</sup> [http://www7.nationalacademies.org/dsc/Biosecurity\\_Workshop.html](http://www7.nationalacademies.org/dsc/Biosecurity_Workshop.html).

<sup>11</sup> <http://www.bma.org.uk/ap.nsf/Content/BioWeaponsII>.

<sup>12</sup> The BMA published a first report on this subject in 1999: **Biotechnology, Weapons and Humanity**.

- (ii) Governments should engage in debate with scientists, other experts, and journal editors about the control of biological experimentation and the dissemination of the results of such research;
- (iii) Scientists must be aware of how their work might impact on legal and ethical norms that prohibit the development and use of biological weapons;
- (iv) Scientists should engage in worldwide debate about how they police their own areas of expertise;
- (v) Scientists should engage in discussion with scientific publishers (on how to publish potentially dangerous research results) and with funders (on which potentially dangerous areas of research should be prohibited).

#### Federation of American Scientists (FAS)

12. The FAS **Biological and Chemical Weapons Control Project** aims to research and advocate "policies that balance science and security without compromising national security or scientific progress" including through preventing the misuse of research and "promoting public understanding of the real threats from biological and chemical weapons". The FAS has launched a **Biosecurity Education Portal**<sup>13</sup> to provide information about online dual-use educational material as well as workshops and courses in biosecurity. Resources currently listed in the portal include:

- (i) Online materials aimed at current and future biological scientists and technicians, such as **Case Studies in Dual Use Biological Research**<sup>14</sup>, developed by the FAS; **Biosecurity: Risks Responses and Responsibilities**<sup>15</sup>, developed by the Center for Arms Control and Non-Proliferation; **The Dual Use Dilemma in Biological Research**<sup>16</sup>, developed by Southeast Regional Center of Excellence for Emerging Infections and Biodefence and the Duke University; and the **Educational Module on Chemical and Biological Weapons Nonproliferation**<sup>17</sup>, created jointly by the Stockholm International Peace Research Institute (SIPRI), the Free University Brussels, and the International Relations and Security Network.
- (ii) Academic courses studying the broader context of biological risks and policy responses, such as the **Biodefense Graduate Program** at George Mason University<sup>18</sup> and **Combating Bioterrorism / Pandemics: Implementing Policies for Biosecurity** offered by the Security Studies Program at the Massachusetts Institute of Technology<sup>19</sup>.

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<sup>13</sup> <http://www.fas.org/programs/ssp/bio/educationportal.html>.

<sup>14</sup> <http://www.fas.org/biosecurity/education/dualuse/index.html>.

<sup>15</sup> [http://politicsandthelifesciences.org/Biosecurity\\_course.html](http://politicsandthelifesciences.org/Biosecurity_course.html).

<sup>16</sup> [http://www.serceb.org/modules/serceb\\_cores/index.php?id=3](http://www.serceb.org/modules/serceb_cores/index.php?id=3).

<sup>17</sup> <http://cbw.sipri.se/>.

<sup>18</sup> <http://pia.gmu.edu/grad/biod/>.

<sup>19</sup> [http://web.mit.edu/mitpep/pi/courses/combating\\_bioterrorism.html](http://web.mit.edu/mitpep/pi/courses/combating_bioterrorism.html).

Institute for Security Studies (ISS)

13. The ISS is a South Africa-based policy research institute, operating across sub-Saharan Africa. In May 2008, the ISS provided the Implementation Support Unit with a **Report on African Activities: Awareness Raising and Education of Scientists**. The report describes the involvement of the ISS from 2006-2008 in activities aimed at promoting awareness-raising among life scientists about dual-use issues and the need to prevent the hostile use of biological agents. The activities included:

- (i) Awareness-raising seminars in 2006 at seven research institutions in South Africa (University of KwaZulu Natal, Cape Town University, University of the Western Cape, Stellenbosch University and the National Institute for Communicable Diseases), run jointly by the ISS, Dr Brian Rappert, University of Exeter, and Prof. Malcolm Dando, University of Bradford.
- (ii) **Building Stakeholdership in the Prevention of the Hostile Use of Biology and Biotechnology: A Meeting for Kenya in Eastern Africa**, a workshop in Nairobi in November 2007, organised by the ISS and the BioWeapons Prevention Project (BWPP).
- (iii) **Promoting Biosafety and Biosecurity**, an international workshop in Kampala in March 2008, organised by the Ugandan National Academy of Sciences. The workshop aimed to inform scientists and policy makers from southern and east Africa on issues related to the inadvertent or deliberate spread of disease stemming from life science research.

**IV. Publications and articles**

New Scientist

14. In June 2006, New Scientist published an article by Peter Aldhous titled "**Biologists risk becoming accidental terrorists**"<sup>20</sup>. The article raised the concern that many biologists remain ignorant of the potential dual-use applications of advances in the biological sciences. It highlighted the important role of journals in managing the publication of information that poses serious security concerns, as well as in promoting debate around dual-use research. According to the author, the most urgent need is for better education of graduate students, as few universities offer classes in biosecurity.

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<sup>20</sup> New Scientist, 10 June 2006, Vol. 2555, Comment and Analysis.