

**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**

BWC/MSP/2008/MX/CRP.1
21 August 2008

ENGLISH ONLY

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

**Meeting of Experts
Geneva, 18-22 August 2008**

**CONSIDERATIONS, LESSONS, PERSPECTIVES,
RECOMMENDATIONS, CONCLUSIONS AND PROPOSALS DRAWN
FROM THE PRESENTATIONS, STATEMENTS, WORKING PAPERS
AND INTERVENTIONS ON THE TOPICS UNDER DISCUSSION
AT THE MEETING**

(Draft, as at 12:00 on 21 August)

**Agenda Item 5: National, regional and international measures to improve biosafety and
biosecurity, including laboratory safety and security of pathogens and toxins.**

Delegation	Text	Source
Cuba (NAM)	Biosafety... is the set of practices and technologies aimed at protecting people from the hazards of occupational exposures to pathogens and toxins... Biosecurity is... related to the measures taken to guarantee the protection of the biological material, technologies and information from loss, theft, misuse, diversion and intentional release.	Statement 18/08/2008
France (EU)	Issues relating to biological security, in other words the principles, technologies and practices established to prevent unintentional exposure to biological agents and toxins or their accidental discharge, and issues related to biosafety, in other words protections, controls and traceability of biological substances employed to prevent unauthorized access to these substances, their loss or threat, malevolent use or abuse, are two complementary axes intended to minimize the risks and challenges arising for the Convention.	Statement 18/08/2008
OECD	“Biosecurity”: Institutional and personal security measures and procedures designed to prevent the loss, theft, misuse, diversion or intentional release of pathogens, or parts of them, and toxin-producing organisms, as well as such toxins that are held, transferred and/or supplied by BRCs.	Presentation 19/08/2008

Delegation	Text	Source
South Africa	Laboratory biosafety describes the containment principles, technologies and practices that are implemented to prevent the unintentional exposure to pathogens and toxins, or their accidental release... Laboratory biosecurity describes the protection, control and accountability for valuable biological materials within laboratories, in order to prevent their unauthorized access, loss, theft, misuse, diversion or intentional release	Presentation 19/08/2008
ABSA	Biological safety (or biosafety) includes specialized practices, procedures and proper use of equipment and facilities, in order to assure the safe handling and disposal of infectious organism or biological material which may harbour infectious organisms. It includes the safe management of recombinant DNA (rDNA) activities... Biosecurity is a growing discipline that leverages and institutes biosafety programs and professionals, and fuses physical security practices and technology to safeguard biohazardous materials such as microorganisms and toxins.	Presentation 20/08/2008
United Kingdom	“Biosafety” is a term used to refer to the appropriate containment of pathogens in the laboratory environment, both to prevent exposure of workers within the laboratory, and exposure of people, animals and other vulnerable organisms in the external environment. “Biosecurity” in this context is used to refer to the secure storage and use of dangerous pathogens and toxins to reduce the risk of malicious use.	WP.6
Canada	Biosafety describes the containment principles, technologies and practices that are implemented to prevent the unintentional exposure to pathogens and toxins, or their accidental release... Laboratory Biosecurity describes the protection, control and accountability for valuable biological materials within laboratories, in order to prevent their unauthorised access, loss, theft, misuse, diversion or intentional release.	WP.17
China	Biosafety correlates to the obligation under the Convention to ensure that physical protection measures are taken, which prevent the accidental release of pathogenic microorganisms and strengthen personal protection, with a view to protecting population and the environment. In the setting of the Convention, biosecurity is commonly used to refer to security and oversight mechanism of pathogenic microorganisms and relevant resources, to prevent unauthorized acquisition, retention, use, transportation or deliberate release of these materials and bioterrorism activities.	WP.18
Japan	Biosafety - is understood as measures taken for the safety of personnel handling pathogens and toxins and of others in the laboratory, including accident prevention, as well as for preventing the contamination of people and the environment outside the laboratory through the leakage of pathogens and toxins. In ensuring biosafety, the approach of safety management is employed... Biosecurity - is understood as measures taken for preventing the illicit development, acquisition and use of	WP.22

Delegation	Text	Source
	pathogens and toxins and relevant information and technology for purposes that run counter to the aims of the BWC. In ensuring biosecurity, the approaches of non-proliferation and counter-terrorism are employed	
Australia	Biosecurity comprises measures that minimize the possibility of biological agents being deliberately used to cause harm. This distinguishes it from biosafety, which involves measures aimed at protecting people and the environment from unintentional impact of biological agents, and includes workplace health and safety issues and the prevention of the accidental release of such agents.	WP.26
China	States Parties should take effective measures in the following areas: to strengthen laboratory protective measures and prevent unauthorized access to facilities with high risks; to reinforce management of pathogenic organisms; to establish accreditation system on the qualifications and capabilities of organizations and individuals engaged in biological research and development activities; to carry out risk assessments on the research of the life sciences	Statement 18/08/2008
Cuba (NAM)	Relevant national authorities should have the responsibility in defining and implementing such concepts, in accordance with relevant national laws, regulation and policies, consistent with the provisions of the Convention.	Statement 18/08/2008
Japan	There is an urgent need for taking appropriate measures not only for biosafety but also for biosecurity to prevent the development, acquisition and use of biological weapons.	Statement 18/08/2008
Japan	The involvement of all stakeholders, including the relevant international organizations, NGOs, the scientific community, industry, and academia is vital	Statement 18/08/2008
OECD	Key Elements [include]: designated biosecurity officer...; assessing the risk (potential for malicious misuse x virulence)...; risk management practices: concrete measures to secure the pathogens in a collection (including transport).	Presentation 19/08/2008
Pakistan	A reliable biosafety-biosecurity system would have the elements of preparedness and response in the event of deliberate or accidental releases, and an effective disease surveillance mechanism at the national, regional and international levels.	Statement 18/08/2008
Pakistan	For a reliable and resilient biosafety and biosecurity regime, all stakeholders should be involved. These include governments, industry, life scientists, civil society, and international organizations, in particular WHO, FAO, OIE, OPCW, INTERPOL and UNESCO.	Statement 18/08/2008
Pakistan	As we take these [biosafety and biosecurity] measures, we are required to review their effectiveness and update lists of agents and equipment relevant to safety, security and transfer regimes.	Statement 18/08/2008
Argentina	Biosafety tools are mandatory for peaceful use of biological materials	Statement 19/08/2008

Delegation	Text	Source
Denmark	Insufficient biosecurity should be addressed with physical security measures, personnel security, material control and accountability as well as transport and information security	Statement 19/08/2008
Denmark	Even the wealthiest states cannot handle biological threats with national means: international cooperation can greatly add value to this regard	Presentation 19/08/2008
Indonesia	There is also a need to increase biosafety and biosecurity not only by strengthening physical structures, but also to increase understanding, coordination, and partnership of relevant actors, as well as enacting national legislations.	Statement 19/08/2008
Indonesia	Regional Cooperation... could serve as an important bridge between national and international efforts to strengthen BWC. It also serves as a forum to build networks between stakeholders as well as to better understand and foster cooperation among countries in region.	Statement 19/08/2008
Morocco	biosecurity and biosafety strategy will require the establishment of a steering committee at both regional and national levels; the SC will be responsible for strategic leadership for the development, implementation and oversight	Presentation 19/08/2008
Morocco	Recommendations have to be made at an international level, given single governmental actions are not enough inside the frame of globalization of science	Presentation 19/08/2008
Morocco	Desirable to set-up international standards in the field of biosafety and biosecurity that takes into consideration freedom of mobility for scientists, dignity and cultural pluralism	Presentation 19/08/2008
Nigeria	Need for global cooperation in the area of biological safety and biosecurity since the rapid expansion of biotechnology research has resulted in the global proliferation of dual-use materials, technologies and expertise	Statement 19/08/2008
Nigeria	Laboratory biosecurity and biosafety often overlap and should complement each other.	Statement 19/08/2008
Norway	International standards should help ensure that facilities are well prepared to respond in the event that biological agents were released.	Presentation 19/08/2008
Norway	Biosafety and biosecurity are closely interlinked, and common systems are required to manage both effectively	Presentation 19/08/2008
Norway	International standards play a vital role in the development of national regulations, guidelines and requirements	Presentation 19/08/2008
Norway	External and independent certification may assist containment laboratories in establishing and implementing adequate level of biosafety and biosecurity	Presentation 19/08/2008
Norway	Certified compliance with relevant international standards may confirm that appropriate measures are taken with regards to biorisk management	Presentation 19/08/2008
Pakistan	The scope of biosecurity should include select agents, equipment, transport, risk management, supervision, oversight and review.	Statement 19/08/2008

Pakistan	Possession, use and transfer of specific biological agents should be guarded; high security and containment must be maintained	Presentation 19/08/2008
South Africa	Laboratory biosafety should be the foundation for biosafety and biosecurity.	Presentation 19/08/2008
South Africa	Biosafety [concepts include:] access control, procedures, personal protection, safe working procedures, lab Management, personnel – capabilities, structural requirements, equipment, agent transport	Presentation 19/08/2008
South Africa	Biosecurity [concepts include:] access control, procedures, accountability, control, personnel – security, structural requirements, equipment, agent transport	Presentation 19/08/2008
South Africa	Concerted effort to first improve biosafety standards and then improve biosecurity	Presentation 19/08/2008
Switzerland	Three main components to ensure that these issues are addressed and properly managed in biorisk facilities: 1) Biosafety officers with sufficient knowledge and skills, 2) good microbiological technology, 3) biorisk management system.	Statement 19/08/2008
Switzerland	Switzerland recommends a compulsory or certified curriculum and the associated training programmes for biosafety officers.	Statement 19/08/2008
Ukraine	Most of the countries have collections of naturally or artificially created microorganisms or other biological agents or toxins to be used for protective or other peaceful purposes. All necessary means have to be implemented for the safeguard and control of such collections for them not to be used for deliberate or nonintentional hostile purposes.	Statement 19/08/2008
United Kingdom	a single regulatory framework should govern work with human and animal pathogens	Statement 19/08/2008
United Kingdom	Common set of containment measures should apply both to animals and human pathogens	Statement 19/08/2008
WHO	The way forward includes: advocacy/ awareness for development of national policy and allocation of resources, technical support, training, national and institutional policy and independent review/appraisal.	Statement 19/08/2008
WHO	Next steps include: support countries to enhance laboratory biosafety, strengthen biosafety and laboratory biosecurity in the regions, <u>train trainers</u> , and discuss introduction of biosafety as (a) scientific discipline into undergraduate/ graduate studies	Statement 19/08/2008
ABSA	A mix of voluntary compliance and performance-based regulations are likely to provide the highest level of biosecurity.	Presentation 20/08/2008
ABSA	BSL1 and 2 laboratories are low risk. Regulations will have significant impact on research, with little significant gain in protection	Presentation 20/08/2008
ABSA	Key components assessed by an effective accreditation program would include: 1) the biosafety expertise and training of personnel	Presentation 20/08/2008

	managing and conducting research; 2) the adequacy and function of the biosafety management structure supporting its research activities; and 3) the adequacy and function of biocontainment measures, including facilities, equipment, practices and record-keeping systems, in place at the facility that is evaluated.	
ABSA Canada	Help interpret guidelines and regulations	Presentation 20/08/2008
ABSA Canada	Encourage pooling of resources / comparison of work practices and experiences	Presentation 20/08/2008
ABSA Canada	Forum to answer questions related to biosafety	Presentation 20/08/2008
A-PBA	The issues of biosafety and biosecurity has evolved to different positions for different countries and region	Presentation 20/08/2008
A-PBA	In many developing countries, the focus could still be on the fundamentals of biosafety	Presentation 20/08/2008
A-PBA	To implement a systematic programme for biosafety and biosecurity that is effective and sustainable , a certain infrastructure at the regional level has to be in place to support and implement those programme	Presentation 20/08/2008
A-PBA	[should] support a Global (International) Biosafety and Biosecurity Framework; encourage the development of National Biosafety and Biosecurity Framework; encourage the formation of National Biosafety Association / Biosafety Work Groups; provide a common platform for training, networking and promotion of Biosafety and Biosecurity	Presentation 20/08/2008
France	Should trace and standardize research activities in laboratory notebooks.	Statement 20/08/2008
INES	Licensing include not only facilities in which the work is being conducted, but also the work itself and the principal investigators that are responsible for conducting the projects. The licensing process, if proper instruction to principal investigators about dual-use aspects of life sciences work is included, can go a long way not only towards minimizing risks but also in raising risk awareness among scientists and engineers carrying out the work.	Statement 20/08/2008
INES	Licensing and oversight of activities are all part and parcel of an effective biosecurity regime to benefit us all.	Statement 20/08/2008
INES	An important move towards meeting the challenges posed by the risks emerging from the life sciences revolution would be the international harmonization of basic biosecurity and oversight regulations.	Statement 20/08/2008
INES	Reaching agreement on a set of basic international biosecurity and oversight regulations that can be presented as a negotiating package for consideration at the Seventh Review Conference in 2011	Statement 20/08/2008
Iran	Biosafety and biosecurity procedures and practices vary enormously from country to country according to level of technological development and access to technology and materials as well as geological and climatic conditions that may	Statement 18/08/2008

	affect the laboratory design and thus the commissionin requirements. Therefore "one size fits all" approach should be avoided in dealing with the issue.	
IUBMB	Ensure that the benefits of the life sciences are maximized while their risks are minimized	Presentation 20/08/2008
Japan	Outreach and information sharing through blog sites can contribute to raise awareness on biosecurity issues	Statement 20/08/2008
Malaysia	Technical advisory boards and the establishment of Bio-safety and Bio-security officers.	Statement 20/08/2008
Norway	Level 3 laboratories should have adequate control, including ongoing operating costs and maintenance. Worker infection and environmental release need to be prevented within the laboratory. Best practices should be tailored locally and should be shared. Regulators are key actors in the process.	Presentation 20/08/2008
United States	'Dual use' potential of certain life sciences research requires consideration of biosecurity measures	Presentation 21/08/2008
United States	Effective implementation of laboratory biosecurity practices requires the commitment of institutional management.	WP.1
United Kingdom	The basis of good physical security is founded on the "3D principle" – Deter, Detect and Delay: <u>Deter</u> – the overt physical and electronic security measures that may provide a serious deterrent to a would-be intruder; <u>Detect</u> – alarm systems and cameras to detect the presence of an intruder; and, <u>Delay</u> – physical security measures that delay the intruder for a sufficient period to allow a response force to attend	WP.6
Germany	Registration, licensing and supervision of both facilities and persons	WP.14
Germany	[Biosafety & biosecurity includes:] measures for safe/secure production, use and/or storage; measures for safe/secure transport; licensing/registration of facilities/persons handling biological materials; reliability/security check of personnel; regulations for genetic engineering work; control of importation and exports.	WP.16
Canada	The following elements are proposed: (i) Introduction of a full interdepartmental community including departments that lead on international obligations, as well as those departments that lead on domestic implementation. (ii) National standards or guidelines that describe appropriate: laboratory biosafety (worker safety), biocontainment (containment of infectious agents), and biosecurity (securing infectious agents). (iii) Training and certification for biosafety officers. (iv) Transportation of dangerous goods requirements that allow for shipping of infectious substances in a secure and contained fashion, both within and outside a state party's borders. Proper outreach on international obligations and how they translate into domestic responsibilities.	WP.17
Canada	The BTWC requires enforcement, health agencies and defence to work together at all times. A proper framework needs to be established, with a clear understanding of the mandates of each	WP.17

	and every participating department or agency. (i) First step is outlining existing mandate and work currently undertaken by each department in the biological world. (ii) Second step is to outline all legislation currently enforced – the use of relevant resources, including the 1540 Matrix, would be very useful for this exercise. (iii) Third step is to establish an interdepartmental bio-working group. Once established, an early priority is an agreed strategy on the best outreach tools. Awareness-raising on international obligations and domestic obligations are a government's responsibility. Education and awareness-raising is a key step.	
China	These two concepts supplement and improve each other and should be enhanced at the same time.	WP.18
China	[Biosafety & biosecurity include:] Laboratory Biosafety and Biosecurity; Personnel Protection and Biosecurity Measures; Control of Pathogenic Microorganisms; Emergency Response System	WP.18
China	Establish or improve laboratory standardized biosafety practice and strengthen laboratory protective measures with a view to preventing the accidental release of pathogenic microorganisms. To implement licensing approval on the access to facilities with high risks so as to prevent unauthorized access	WP.18
China	Reinforce security measures and management in the storage, wrapping, transportation and transfer of pathogenic microorganisms	WP.18
China	Organizations and individuals engaged in biological research and development activities which have high risks in biosecurity aspect should be accredited according to the evaluation of their qualifications and capabilities	WP.18
Indonesia and Norway	Capabilities must be adapted to local needs, taking into account the complexities involved in setting up new laboratories, as well as the challenges associated with construction, on-going maintenance and running costs	WP.20
Indonesia and Norway	External certification and audit would improve safety and security standards	WP.20
Indonesia and Norway	The human element is the crucial part of the chain for many aspects of biosafety and biosecurity: good facilities and procedures are not sufficient if personnel are not adequately trained and do not clearly understand their roles and responsibilities	WP.20
Indonesia and Norway	A number of actors have important roles in promoting biological safety and security: governments, professional organisations, research institutions, international organisations, and international networks such as regional biological safety associations. Partnerships are encouraged	WP.20
Indonesia and Norway	Need to address the challenges posed by transport of dangerous material, including the ability to safely, securely and cost effectively ship samples and cultures by air	WP.20

Indonesia and Norway	Fully implementing the obligations set by the BTWC and the UN Security Council resolution 1540 is an essential component in providing biosafety and biosecurity	WP.20
Japan	The highest level of safety needs to be ensured in the handling of pathogens and toxins for accident prevention, and to date measures have been taken for this purpose	WP.22
Japan	It has become crucial to strengthen security measures for the prevention of the development, acquisition and use of biological weapons	WP.22
Japan	Biosafety and biosecurity differ in their approach, there are quite a few common measures in their implementation. Particularly, in order to ensure biosecurity, first and foremost, it is required to take solid measures for biosafety	WP.22
Japan	National measures, as well as regional and international actions, for biosafety and biosecurity is important	WP.22
Japan	Regulations for risk management: (1) Control of pathogens and toxins - Since there is a risk of dangerous pathogens and toxins being directly employed for illicit purposes, their possession should be controlled strictly. For conducting controls, a list of such agents needs to be compiled in order to clarify which pathogens and toxins should be regulated. Further, in addition to the control of dangerous pathogens and toxins in the laboratory, appropriate control of their transport is necessary. Accordingly, to ensure appropriate control of pathogens and toxins, legal regulations including proper penal legislation should be taken. (2) Monitoring system - To make the appropriate control of pathogens and toxins effective, monitoring whether facilities that possess such agents are taking adequate measures is important. (3) Import-Export Controls - Controls on the import and export of pathogens and toxins should be considered as key measures from the viewpoints of both biosafety and biosecurity	WP.22
Japan	Biosecurity manuals have yet to be adopted in many places and there is still significant room for improvement	WP.22
Japan	Personnel handling pathogens and toxins are required to acquire accurate knowledge and skills and to properly control such biological agents for biosafety and biosecurity purposes. Accordingly, the provision of education and training for appropriate workers is also an important measure	WP.22
Japan	As the potential effects of inadequate biosafety and biosecurity measures could spread beyond national boundaries, regional and international cooperation is indispensable	WP.22
Japan	Strengthen coordination with relevant international organizations, such as the WHO, as well as to engage in mutual feedback on the discussions concerning biosafety and biosecurity	WP.22
Japan	Hold biosafety and biosecurity workshops and seminars, since they contribute to the enhancement of awareness and capacity building of stakeholders in countries that have not taken adequate	WP.22

	safety measures. In particular, since the consequences of accidents and terrorism involving biological agents have a high risk of spreading regionally, the convening of workshops to consider regional responses would be beneficial	
Japan	Not only coordination amongst governments, but also the establishment of researcher networks would facilitate and expedite information sharing, and thus should be promoted actively. Moreover, the meetings of international organizations and organizations for regional cooperation and relevant workshops and seminars could also serve as opportunities for developing researcher networks.	WP.22
United States	Nevertheless, the concept of laboratory biosafety and biosecurity at an international level is still in its infancy, and the international community faces many challenges in achieving comprehensive implementation in this area. Hurdles range from a lack of capacity or necessary financial resources in many regions to operational and oversight laxity, personnel liability, and an overall low-level of awareness or concern	WP.23
United States	To reduce the biological risks associated with infectious disease laboratories, complementary and coordinated international measures are critical.	WP.23
United States	Much work remains for states to establish necessary oversight of facilities holding dangerous pathogens and for the international community to increase its cooperative efforts to promote security of such facilities wherever they are located.	WP.24
United States	Outreach and education are among the most effective tools for promoting responsible research and enhancing biosafety and biosecurity	WP.25
France (EU)	Ensuring the safety and security of microbial or other agents or toxins in laboratories and other facilities, including during transportation, in order to prevent unauthorized access to and removal of such agents and toxins	WP.27
France (EU)	Promote: networking among all national stakeholders, including the public health sector, justice, police, foreign affairs, and other relevant sectors; the involvement of relevant international and regional organizations; the membership of countries; stakeholders in regional professional biosecurity and biosafety associations; networking, especiall in the regional context, among reference laboratories to promote transparency and to build confidence.	WP.27
Bulgaria	It is important to create an early warning system for intended and unintended communicable diseases through collaboration with other countries and to harmonize our legislation and regulatory national documents with those of larger regional bodies.	Statement 19/08/2008
Indonesia	The need of individual countries to further enhance... capabilities in addressing challenges such as emerging and re-emerging diseases which affect human, animal, and plants. These efforts to enhance capabilities must be adapted to local needs.	Statement 19/08/2008

ABSA Canada	Facilitate communication between biosafety professionals and nurture networking	Presentation 20/08/2008
ABSA Canada	Develop and share training programmes	Presentation 20/08/2008
A-PBA	A step forward is to identify or establish such partners or channels that can assist in the implementation of these programmes	Presentation 20/08/2008
Indonesia	BSL 3 facilities need to be more widely available. Building quality, maintenance and levels of expertise need special attention.	Statement 20/08/2008
Malaysia	Encourage other State Parties who are in the position to do so to extend such assistance to other SP who need it	Statement 20/08/2008
Nigeria	Ad-hoc capacity building is too passive. Capacity building in curriculum development for primary, secondary and tertiary education is critical.	Statement 20/08/2008
Nigeria	Researchers and laboratory technologists require capacity building and refresher courses in maintaining laboratory safety measures. It is important to provide training to technical personnel. Emphasis should be placed on long-term sustainability of training, trainees must be selected carefully to ensure this sustainability.	Statement 20/08/2008
Nigeria	Need to have capacity building on information dissemination as well as effective public awareness strategies for biosafety and biosecurity.	Statement 20/08/2008
Nigeria	To effectively entrench an issue in a system, it has to be taught. Make capacity building in curriculum development and mainstreaming biosafety and biosecurity in the curricular of	Statement 20/08/2008
Sudan	Would like to support adequate training and promotion of peaceful use of biotechnology.	Statement 20/08/2008
Turkey	Legislative work, education and awareness raising, the improvement of analysis-laboratory capacities and the acquisition of new materials are important.	Statement 20/08/2008
UNSCR 1540	States should prohibit non-state actors from the transportation and transfer of biological weapons and related materials. Countries need... cooperation between government agencies not traditionally under the jurisdiction of arms control.	Presentation 20/08/2008
UNSCR 1540	Countries should submit their own action plans [to the Committee] and ask if they need any assistance.	Presentation 20/08/2008
China	one of the purposes for exchanges and cooperation is to provide assistance and support to the countries which are in need.	WP.18
China	States Parties should further improve their biosafety and biosecurity systems and relevant capacity building, assuring pathogenic microorganisms and toxins be used for peaceful purposes not prohibited by the Convention, and not be used for biological weapon or bioterrorism purposes	WP.18
Pakistan	Biosecurity and biosafety are not confined to physical security of laboratories, pathogens and toxins. They encompass risk	Statement 18/08/2008

	awareness, measures to ensure that life sciences are committed to their benign use, and protection of know-how and technology against bioterrorism and biological warfare.	
OECD	Elements of risk management: people [including,] security management of personnel, security management of visitors, incident response plan, staff training and developing a biosecurity-conscious culture; material [including,] material control and accountability, supply of material, transport security; information [including,] security of information.	Presentation 19/08/2008
OECD	The OECD recommends international policy discussion about (the) broader spectrum of risks emanating from advances in life sciences and (aims) to describe a process and set of organizing principles by which risk associated with the malevolent use of technological advances might be managed in the longer term.	Statement 19/08/2008
UK	A highly accountable regulatory framework that is consistent, transparent, proportionate and targeted on activities where the greatest risks are should be developed.	Statement 19/08/2008
United Kingdom	risk assessment should be a key element of such a regulatory framework	Statement 19/08/2008
Cuba	Recommends a scientific risk appraisal system for pathogens and GMOs.	Statement 20/08/2008
INES	Because of the leading role that engineers and scientists play in the development of science and technology we feel it is essential that they themselves be directly involved in this process of risk management.	Statement 20/08/2008
China	Carry out risk assessments on the research of life sciences and reduce the risks of abusing the achievements in this field	WP.18
France (EU)	Promoting bio-risk reduction practices and awareness, including biosafety, biosecurity, bio-ethics and preparedness against intentional misuse of biological agents ad toxins, through international cooperation and networking in this area.	WP.27

Agenda Item 6: 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.

Delegation	Text	Source
China	States Parties should also promote the international cooperation, including making full use of the resources and achievements of relevant international organizations with a view to improving national oversight system of the life sciences. Meanwhile, the competent countries are encouraged to provide assistance to the countries which are in need.	Statement 18/08/2008
France (EU)	The potential for abuse of technological developments in the field of life sciences, as well as the risk of developmental use of a biological weapon by a State or a terrorist organization are major challenges for the international community and require both ongoing adaptation of tools and a strengthening of the sharing of experience among States Parties.	Statement 18/08/2008
France (EU)	The potential for abuse of technological developments in the field of life sciences, as well as the risk of developmental use of a biological weapon by a State or a terrorist organization are major challenges for the international community and require both ongoing adaptation of tools and a strengthening of the sharing of experience among States Parties.	Statement 18/08/2008
Iran	Relevant actors are to have a clear understanding of the content, purpose and foreseeable consequences of their activities, as well as of the need to abide by the obligations contained in the Convention.	Statement 18/08/2008
Nigeria	The dual-use potential of bio-technology will always remain a minefield, requiring a careful balancing act, so as not to deprive states of the benefits of bio-technology.	Statement 18/08/2008
Pakistan	[It is favourable to have] a healthy combination of government/institutional controls and regulation by scientific establishments and scientists themselves	Statement 18/08/2008
Pakistan	The objective should be to proscribe the use of the life sciences for malign purposes but not to stifle scientific inquiry and research for beneficial purposes.	Statement 18/08/2008
Pakistan	In pursuing these goals, oversight must respect the principle of proportionality	Statement 18/08/2008
Pakistan	In pursuing these goals, oversight must... explore the possibility of harmonization at the national and regional levels, through voluntary initiatives.	Statement 18/08/2008
Nigeria	It is critically important to strike an important balance between protection from dangerous pathogens and toxins and preservation of an environment that promotes legitimate biological research (through organizational cooperation and research).	Statement 19/08/08 PM
Ukraine	Establishment of Scientific Advisory Body that could independently analyze global developments and their transparency	Statement 19/08/2008

Delegation	Text	Source
	in connection with the BWC on conditions of its clear mandate development	
Ukraine	Risks resulting from progress in modern biology have to be minimized	Statement 19/08/2008
IAP	Scientists who become aware of activities that violate the Biological and Toxin Weapons Convention or international customary law should raise their concerns with appropriate people, authorities and agencies	Statement 20/08/2008
INES	Control over the work in both the proposal and execution stages is essential, and this could be carried out both by licensing and by a peer review process of oversight at the institutional level in cooperation with the principal investigator	Statement 20/08/2008
IUBMB	To prevent any further undermining of public confidence in the life sciences or life scientists	Presentation 20/08/2008
United States	Need to minimize the likelihood that biological research findings will be misused for production and enhancement of biological weapons	Presentation 21/08/2008
United States	Goal: enhance biosecurity protections for life sciences research while ensuring that any impact to the free flow of scientific inquiry is minimized.	Presentation 21/08/2008
Japan	With awareness and appropriate guidance, scientists can apply their own expertise to judge the wider ramifications of their research and other activities	WP.21
Japan	Safeguards policies and oversight mechanisms that require all scientists to take responsibility for biosafety / biosecurity should be promoted	WP.21
Japan	All relevant actors must be mindful of their responsibilities.	WP.21
Japan	It is necessary to examine appropriate measures involving not only the scientists, who are obviously the principal actors, but also all other stakeholders, including the policy-makers, regulators, administrators of universities and research institutions, together with academic associations and the private sector.	WP.21
Japan	It is important to institute an oversight mechanism which is meaningful and does not create unnecessary burden. This is essential to make it acceptable for scientists and to forge ownership.	WP.21
Japan	life scientists themselves need to be actively involved in constructing and instituting such oversight mechanisms in order to make it effective	WP.21
Japan	The following elements need to be included: appropriate management of personnel, appropriate management of pathogens and toxins; appropriate management of sensitive information and knowledge about research information and research outcomes; research funding; and the modalities of governance over research programs in universities, research institutions and academic associations.	WP.21
Japan	It is necessary to institute a legally-binding oversight mechanism	WP.21

Delegation	Text	Source
Japan	With regard to the management of research information, knowledge and outcomes, there is a concern that a similar legally-binding oversight mechanism may not be appropriate since such measures could obstruct scientific development	WP.21
Japan	Involve all relevant stakeholders including scientists and administrators in universities, research institutions and companies, as well as stakeholders in government and the media when appropriate	WP.21
Japan	Study the establishment of a mechanism that enables scientists to consult on their research and to expand the opportunities where the scientific and security communities can communicate with each other	WP.21
Japan	It should be encouraged for scientific research institutions to monitor voluntarily, with the help of academic association when necessary, whether research grants are being used for legitimate purposes and whether research projects are properly managed. In this regard, whistleblower systems can be of great importance to support such voluntary monitoring	WP.21
Japan	It is important to examine how to apply and implement these means appropriately through national and international cooperation and coordination, in order not to hinder the development of science and technology, which have become a vital part of our lives, but to protect the scientific activities of well-intentioned scientists	WP.21
United States	It is difficult to objectively quantify the dual-use risk of an experiment or project. Scientists would benefit from 1) increased awareness of dual-use issues, and 2) simple tools and guidelines that could help in an objective assessment of risk. Lack of clear and effective guidelines puts a heavy burden on those who are responsible for evaluating projects, proposals and reports for dual-use potential.	WP.25
Indonesia	Raising awareness and improving capability should go hand in hand	Statement 18/08/2008
Iran	Raising scientific community's awareness in either state or private sectors with respect to the objectives enshrined in the BWC could be an important and effective element in promoting the national implementation of the Convention.	Statement 18/08/2008
Iran	Scientific community and industry that play a significant role in the development and application of bio-technology should be involved in devising educational programs.	Statement 18/08/2008
Iran	Scientists should be encouraged to convene seminars, workshops and prepare research papers to raise the awareness.	Statement 18/08/2008
Pakistan	Policy makers, the scientific community, industry, academia, media and the public in general should all be part of this dialogue to make them aware of risks associated with biotechnology and the legal and ethical obligations incumbent upon them.	Statement 18/08/2008

Ukraine	Suggests countries should... strengthen awareness and education of the Convention amongst life scientists.	Statement 19/08/2008
Ukraine	There is still a very limited awareness of the Convention amongst life scientists. Indeed, the awareness of life scientists is such that we can't expect them to spontaneously initiate a "bottom-up" approach to the development and implementation of codes of conduct.	Statement 19/08/2008
IAP	Scientists should be aware of, disseminate and teach national and international law and regulations, as well as policies and principles aimed at preventing the misuse of biological research.	Statement 20/08/2008
IAP	Scientists with responsibility for oversight of research or for evaluation of projects or publications should promote adherence to these principles by those under their control, supervision or evaluation and act as role models in this regard.	Statement 20/08/2008
IUBMB	To enhance awareness of issues related to the potential malign use of life science research	Presentation 20/08/2008
Malaysia	Reaffirms the importance of education and awareness raising in line with the Convention. The scope of education and awareness raising activities are done mainly through seminars and courses	Statement 20/08/2008
Netherlands	Develop awareness raising audiovisual materials for students being the researchers and scientists of the future	WP.8
China	States Parties are encouraged to actively engage in education and awareness raising of the implementation of the Convention through various forms including holding seminars or training courses.	WP.18
China	States Parties are also encouraged to strengthen information exchanges and draw useful experiences from each other through international cooperation.	WP.18
China	States Parties should further promote the awareness of the Convention, educate biological scientists and raise their awareness of self-discipline so as to minimize the risks of the proliferation of biological weapons related materials and technologies at the initial stage. Meanwhile, a full play should be given to the scientific society and professional associations on their role of supervision.	WP.18
Japan	It is desirable to develop a program for education and awareness raising swiftly	WP.21
Japan	Programs for education and awareness raising among scientists are a basic means for preventing the misuse of biotechnology	WP.21
Japan	The direct effects gained through programs for education and awareness raising may vary depending upon the integrity of the scientific community, which is underpinned by the conscience of individual scientists and their mutual trust. Therefore, from the viewpoint of ensuring the effectiveness of such programs, it is necessary to reflect and institutionalize the outcomes of these programs in an oversight mechanism and the contents of codes of conduct.	WP.21

Japan	In developing the content of programs for education and awareness raising, it is important to deal with the following subjects: ethical and moral principles; awareness of the dual-use risks of biotechnology; management of sensitive research information, knowledge and outcomes; and legal obligations under the relevant treaties and associated domestic legislation	WP.21
Japan	Targets of education must include students (both in universities and secondary schools), researchers at universities, research institutions and private companies, health care workers, etc., who are/will be involved in science now and in the future. It would be also important to include the managers and administrators of universities, research institutions and private companies	WP.21
Japan	Since the effectiveness of educational programs can be significantly influenced by the quality of the education practitioners, it is essential to secure personnel with appropriate qualifications. In this light, it is also important to examine what qualifications are required and how to train personnel as education practitioners.	WP.21
Japan	Since the content of education should cover many topics, it is necessary to include not only the views of scientists but also the views of other relevant stakeholders.	WP.21
United States	Outreach and education are among the most effective tools for promoting responsible research and enhancing biosafety and biosecurity	WP.25
United States	Appropriate training should be provided to the various levels of understanding, in order to raise the overall level of awareness	WP.25
United States	It was noted that education on dual-use topics should be provided early and continually reinforced.	WP.25
United States	The long-term goal would be to develop a “culture of responsibility” that would include a shared general awareness of security concerns.	WP.25
China	Since different countries have different scientific development levels and various management systems, States Parties are encouraged to adopt Codes of Conduct according to their own national situations on a voluntary basis.	Statement 18/08/2008
Cuba (NAM)	It remains the prerogative of the States Parties to decide on the content, promulgation and adoption of the code in accordance with relevant national laws, regulations and policies, consistent with the provisions of the Convention.	Statement 18/08/2008
Cuba (NAM)	Codes of Conduct should avoid any restrictions on exchange of scientific discoveries in the field of biology for prevention of disease and other peaceful purposes	Statement 18/08/2008
Cuba (NAM)	All necessary precautionary measures need to be taken to avoid hampering the economic or technological development of States Parties to the Convention or international cooperation in the field of peaceful bacteriological (biological) activities, while devising national codes of conduct	Statement 18/08/2008

Iran	It remains the prerogative of States Parties to decide on the content, development and / or and adoption of codes. However, the development and adoption of such codes of conduct could be effective and useful, when complemented with the involvement and assistance of national scientific community.	Statement 18/08/2008
Iran	Codes of conduct should not leave individuals and scientists with the impression that codes are designed against them or their scientific activities.	Statement 18/08/2008
Iran	Wider contributions by the scientists in promotion, establishment and adoption of codes would effectively remove any such misunderstandings and would enhance the implementation of codes.	Statement 18/08/2008
Iran	Codes of conduct should also avoid scientific discovery, placing constraints on research or international cooperation and exchange for peaceful purposes	Statement 18/08/2008
Pakistan	Each State Party needs to intensify its efforts to involve life scientists, policy makers and relevant international organizations to develop flexible but effective Codes of Conduct containing elements of ethics, education and training programmes.	Statement 18/08/2008
Pakistan	The most critical part of this effort would be cooperation between governments and scientists.	Statement 18/08/2008
Pakistan	Five workable guiding principles, which are: awareness; safety and security; education and information; accountability; and oversight.	Statement 18/08/2008
Pakistan	Codes of Conduct should not only focus on existing tangible and intangible technologies but fast developing disciplines such as synthetic biology and genomic technology.	Statement 18/08/2008
Russian Federation	The professed purpose of such codes is to guide the scientific research in such a way that its peaceful results may not be used for malevolent purposes against the will and intention of scientists. The codes must include <i>inter alia</i> such elements as the criterion to define dual use research, a list of fields of science that pose the greatest risk in terms of yielding sensitive discoveries, and – the most difficult on – a framework to monitor and administer dual use research.	Statement 18/08/2008
Russian Federation	Codes may not serve as a means of constraining the freedom of peaceful scientific pursuits.	Statement 18/08/2008
Russian Federation	During the discussion on codes of conduct it is advisable to exchange views on how States Parties approach issues such as dual use biological research, research fields that have the highest risk potential in terms of generating and disseminating sensitive findings, and the ways of setting up and running oversight over dual use biological research.	Statement 18/08/2008
Ukraine	Suggests countries should foster the development and implementation of codes of conduct	Statement 19/08/2008

Netherlands	If a code of conduct is to have its intended effect, the content has to link up with relevant scientific, social and political developments and – last but not least – with the daily practice of scientists and their organizations.	WP.8
Netherlands	One of the main principles underlying the Code of Conduct: to raise awareness about possible dual use of life sciences research	WP.8
Netherlands	Should be a concise document, which should concentrate on the main issues that are related to this dual use.	WP.8
Netherlands	Code of Conduct offers rules for responsibilities and gives suggestions for regulation and sanctions on the following issues: raising awareness, research and publication policy, accountability and oversight, internal and external communication, accessibility, shipment and transport.	WP.8
Netherlands	Another way of disseminating the Code of Conduct is by organizing debates and conferences	WP.8
China	Codes of Conduct and the relevant laws and regulations should supplement each other.	WP.18
China	Since different countries have different economic and scientific development levels and various management systems or practice, States Parties are encouraged to adopt Codes of Conduct according to their own national situations on a voluntary basis.	WP.18
China	Codes of Conduct may cover the following basic elements: (i) All those who conduct the scientific research in the life sciences or related fields should comply with the basic guidelines for scientist, i.e., scientific activity should be based on benefitting the welfare of human being and the society and preservation of the nature. (ii) All those related personnel should be fully aware of the purposes and objectives of the Convention and strictly abide by its provisions. They should firmly oppose the research, production or use of biological weapons and should not participate in or assist such activities. (iii) Scientific research bodies and laboratories should adopt and abide by the biosafety and biosecurity operation practice, strengthen the administration on pathogenic microorganisms and the related personnel so as to foresee, assess and maximumly prevent the negative consequences on human kind, nature and society caused by the technical achievements. (iv) If some activities violate the provisions of the Convention or might cause harm to human kind, society or nature, the personnel related should report to the competent authorities immediately. Once the violation or the dishonorable behavior is confirmed, measures of punishment shall be imposed accordingly.	WP.18
Indonesia and Norway	Codes of conduct can contribute to increasing awareness and commitment towards the BTWC.	WP.20
Indonesia and Norway	Such codes should be flexible and adapted to local circumstances, while retaining a core message	WP.20
Japan	In order to make codes of conduct effective, it is important when formulating and propagating codes to emphasize the positive	WP.21

	impact of “protecting legitimate research activities of well-intentioned scientists”.	
Japan	It is viewed of great significance to encourage the participation of as many scientists as possible in the process of drafting codes of conduct so that they will share and enhance awareness of the issues mutually through discussions	WP.21
Japan	The contents of codes of conduct cannot be established independently of oversight mechanisms and programs for education and awareness raising, but rather need to be closely associated with the latter two means.	WP.21
Japan	When formulating codes of conduct, it is important to emphasize in particular the necessity of incorporating skillfully the two aspects of improving the awareness of scientists and establishing procedures and rules for the management and control of pathogens and toxins, as well as sensitive research information, knowledge and outcomes.	WP.21
Japan	“layers” of codes of conduct representing various national, institutional, professional and other stakeholder communities. These codes will complement rather than compete with each other. We consider it desirable that stakeholders be encouraged to develop their own codes, applicable to their own circumstances, and articulated to their own audiences.	WP.21
Japan	Forming a common understanding among the States Parties on the important elements of codes of conduct may be more effective	WP.21
