

# The BWC New Process and the Sixth Review Conference

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21st Workshop of the Pugwash Study Group on the Implementation of the Chemical and Biological Weapons Conventions, Geneva, Switzerland, 4-5 December 2004

Workshop Report  
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## INTRODUCTION

This was the eleventh of the current Pugwash workshop series on countering chemical and biological weapons to be held in Geneva. It was jointly convened by the Pugwash Study Group on the Implementation of the Chemical and Biological Weapons Conventions and the Harvard Sussex Program on CBW Armament and Arms Limitation, and hosted by the Swiss Pugwash Group. The meetings were held on the campus of the Graduate Institute of International Studies, University of Geneva.

Over fifty people attended the workshop, by invitation and in their personal capacities, from 19 countries (Australia, Belgium, Brazil, Canada, Germany, India, Iran, Ireland, Israel, Italy, the Netherlands, New Zealand, Pakistan, Russia, South Africa, Sweden, Switzerland, the United Kingdom, and the United States). This report does not necessarily reflect a consensus of the workshop as a whole or of the Study Group.

The focus of the workshop was the BWC Inter Review Conference Process, sometimes referred to as the New Process, and, in particular, the Second Meeting of States Parties in December 2004 and the Third Meeting of Experts and of States Parties in 2005. The workshop also looked ahead to the Sixth BWC Review Conference in 2006 and beyond.

The meeting opened with a welcome by Professor Jean-Pierre Stroot of the Geneva Pugwash Office, President of the Board of the Geneva International Peace Research Institute, and former Director of Research, IISN, Belgium. Professor Stroot honoured the memory of Martin Kaplan by asking the workshop participants to observe a moment of silence.

## REPORTS

### *The Chemical Weapons Convention: Progress in implementation*

A report was given on the status of implementation of the Chemical Weapons Convention, including a snapshot of how many chemical weapons have been destroyed thus far: as at 31 October 2004, some 10,000 out of 71,000 agent-tonnes of chemical weapons (14 per cent) have been destroyed in addition to 2.14 out of 8.7 million munitions (25 per cent). Though destruction of chemical weapons is behind schedule, it was observed that the destruction, or in some cases conversion, of chemical weapons production facilities has been timely.

With regard to verification, it was noted that some 1,900 inspections, comprising 105,000 inspector days, have taken place in 68 states parties at 785 facilities. Optimisation was also discussed as a means of keeping up with the pace of chemical weapons destruction and in

particular the anticipated increase in the number of continuously-operating chemical weapons destruction facilities that will be on line at any given moment. It was observed that there has been discussion about the need to increase and further focus verification of other chemical production facilities (under Article VI of the CWC) because approximately ten per cent of them are highly versatile in terms of equipment, design and chemistry used, and could have the potential to be converted to make chemical weapons agent.

The action plan on national implementation of Article VII obligations was discussed. It was noted that it had been adopted by the Conference of the States Parties at its eighth session (20-24 October 2003) and that its obligations must be met by the tenth session (7-11 November 2005). Such obligations include establishing or designating a National Authority and adopting national implementing legislation and administrative or regulatory measures. Indicators of compliance with implementation of the Convention include submissions of annual declarations, submission of information further to reviews of trade measures, and submission of information about national protective programmes. It was emphasised that the action plan is not an assistance plan but that assistance is available from other states parties, the Technical Secretariat, and the Network of Legal Experts. A progress report to the Conference at its ninth session (29 November - 2 December 2004) was discussed in which it was made clear that much work remains to be done. With the addition of new states parties in the last year, it was observed that there will need to be additional momentum to meet the deadline for the action plan. It was also observed that there is overlap between the plan and UN Security Council resolution 1540 (2004). In particular, both emphasise the importance of implementing legislation whereas to date, only 32 per cent of the CWC states parties have comprehensive legislation in place. The importance of having transfer measures in place was also noted in the context of the resolution.

Turning to the universality action plan, adopted by the Executive Council at its twenty-third meeting (21 and 24 October 2003), the speaker first noted that it "was inspired by the idea" of full universality of the Convention by 2007. It was observed that in the last year, a key step in achieving universality was Libya's accession to the CWC; it was added, however, that this was not necessarily a result of the action plan but of several years of hard work. Regarding achieving universality at the regional level, it was noted that the African Union and other international organisations have been playing an important role in Africa and other regions. Gaps in universality were highlighted, particularly in the Middle East, and on the Korean peninsula, as well as in Africa and the Pacific and Caribbean regions.

Turning to optimisation (of the use of verification resources), a report on this topic was discussed. It was noted that optimisation for chemical weapons storage facilities, chemical weapons production facilities, and old and abandoned chemical weapons will be based on risk assessments to determine how many inspections will be needed, the frequency, and the size of the team. However, a key area will be destruction-related inspections: the focus will be on reducing team sizes through increasing instrumental monitoring/recording and surveillance/containment of exit passages at chemical weapons destruction facilities. Sequential Article VI inspections were also mentioned.

On the matter of international cooperation and assistance, it was stated that there is no final agreement on a full programme of activities but that some programmes are in place. It was added that some states parties want an evaluation of the current menu of activities and perhaps some new ones as well. Attention was brought to specific programmes including implementation support for Article VII efforts, assistance and protection including ASSISTEX

2, and an agreement on a format for submission of information regarding national protective programmes.

Education and outreach were discussed including a recommendation by the Scientific Advisory Board concerning a joint project with IUPAC, which will include addressing how codes of conduct should reflect chemical weapons prohibitions and introducing awareness and requirements of the CWC into chemistry education.

In response to this update on implementation of the CWC, it was observed by one participant that the Meeting of States Parties in 2003 did not follow a similar approach to the OPCW in adopting an action plan for implementation of the BWC. Further to the discussion of the universality action plan, another participant noted that activities by states parties and the Secretariat used to be disconnected but that this has changed, in part because of greater involvement by regional organisations, including the African Union and the Organisation of American States. It was added that such assistance has also been useful in some cases in informing countries about what their obligations are once they join the Convention. Another participant agreed, noting that it was a good policy choice to start working on implementation assistance with states not party before they even joined the Convention. With regard to demarches by states parties, there was some discussion as to whether they have been useful or not; it was argued that they have been. It was added that universality is slowly being achieved by focusing not on the disadvantages of joining, but by going through regional organisations and emphasising the importance of the Convention and of adhering to it. It was noted, however, that the remaining states not party require a different approach. For example, one participant observed there has been little contact with North Korea and it will, therefore, be difficult to determine whether they will become a state party or not. It was added that, with regard to Egypt, things are changing in the Middle East due to Libya's accession to the CWC and Iraq's indication that it would adhere.

There was also some discussion about the pace of destruction. There was widely shared concern that the 2012 extended deadline for complete destruction of chemical weapons would not be achieved, but it was emphasised that the focus now should be on ways to help some possessor states parties with financial assistance and by stimulating the necessary political will for destruction activities.

### **The Biological Weapons Convention: Outcome of the Meeting of Experts, July 2004**

A report was given on the Meeting of Experts, which took place in Geneva from 19 to 30 July 2004, under the auspices of the Inter Review Conference Process. The following two topics were on the agenda: (i) enhancing international capabilities for responding to, investigating and mitigating the effects of cases of alleged use of biological and toxin weapons or suspicious outbreaks of disease and (ii) strengthening and broadening national and international institutional efforts and existing mechanisms for the surveillance, detection, diagnosis and combating of infectious diseases affecting humans, animals and plants. The mandate of these meetings generally is to promote common understanding and effective action. It was noted that three background papers on mechanisms for disease surveillance, mechanisms for responding to disease outbreaks and mechanisms for investigations of alleged use and for assistance had been prepared by the Conference Secretariat. However, there was no mention of the CWC and its mechanisms for investigations of alleged use.

It was observed that there were representatives from 87 states parties, along with delegates from WHO, FAO and OIE. NGOs were able to make statements at an informal session and 83 working papers were submitted to the Meeting. The outcomes of the Meeting included chronological lists on each topic of considerations, lessons learned, recommendations, and conclusions, which were attached to the Meeting report as Annex II. It was noted that this annex would lay the groundwork for the Meeting of States Parties, which took place the week after the Pugwash workshop.

In response to this report, there was some discussion as to why the CWC was not mentioned in the Conference Secretariat's third briefing paper on mechanisms for investigations of alleged use but it was generally agreed that the Meeting was successful. One participant noted, in particular, that he was encouraged by the quality and level of participation and that the Meeting met its mandate. It was added that BWC states parties are continuing to take a close look at the threat of use of biological weapons and must consider their use by non-state actors and those outliers that have yet to join the BWC. It was added that although use of biological weapons by non-state actors is not explicitly addressed by the BWC the Final Declaration of the Fourth Review Conference had recognised that this could be dealt with through proper implementing legislation, which was also discussed at the 2003 Meetings. It was also noted that the participation of IGOs throughout the 2004 Meeting, i.e., WHO, FAO and OIE, was purposeful because their activities informed topics of discussion at the Meeting including disease outbreaks, distinguishing between natural and manmade outbreaks, and responding to such outbreaks.

Another participant observed that there was a significant amount of discussion at the Meeting on biosurveillance but that there was little in respect of investigations of alleged use. He added that improving biosurveillance is necessary and that international organisations must be involved in this process, nevertheless the problem lies in what to do with such a system: to use it to protect populations or to use it in the field to determine, for example, whether biological weapons have been used. On a different note, a growing lack of coherence was noted in respect of how the international community is responding to bioterrorism, including UN Security Council resolution 1540 and efforts by the G-8, and a reintegration of these efforts within the BWC framework was encouraged.

There was some discussion on this latter point. One participant queried whether the BWC should be the central point for countering the threat of bioterrorism and if the matter should be looked at from a wider perspective, including UN reform. Another noted that international cooperation is already underway and includes such initiatives as PSI, 1540, CSI, EU programmes, etc. In other words, many countries have moved beyond the BWC format. In response, it was noted that this may be due in part to the lack of an international organisation to implement the BWC.

### **International CBW Criminalisation**

The status of the criminalisation project was briefly discussed. It was noted that there was a preparatory meeting in Sussex in anticipation of a conference in The Hague possibly involving the Hague Academy of International Law to promote the criminalisation convention. It was also noted that a commentary had been prepared and that it was being finalised for publication, but that the impact of UN Security Council resolution 1540 would still have to be taken into account.

## **THE BWC NEW PROCESS**

The workshop participants revisited one of the topics discussed under the auspices of the 2003 Inter Review Conference Meetings, namely, national implementation of the BWC, including penal legislation. It was noted that many states parties still lack basic implementing legislation as required under Article IV. It was added, however, that eleven states parties had offered assistance and, more recently, VERTIC and the ICRC had drafted a checklist and model law to implement the BWC. The model law incorporates provisions from several states parties' legislation, elements of the OPCW National Legislation Implementation Kit and elements from UN Security Council resolution 1540. It was noted that the model law targets small states with no biotechnology industry and with common law systems, and that it is intentionally simple and can serve as a framework for further measures if necessary.

A presentation was given on UN Security Council resolution 1540, adopted in April 2004, and its impact on the BWC and the CWC's states parties. It was first observed that the resolution is binding on all UN member states, whether parties to the BWC or CWC, or not. The resolution requires states parties to report on the status of its implementation: 90 out of 191 UN member states had done so by the time this presentation was given. Some concerns about resolution 1540 were noted including: the Security Council acting as a lawmaker in adopting the resolution; its adoption under Chapter VII of the UN Charter which suggests that there will be repercussions if states do not, for example, file their reports or file inadequate ones; and nuclear, biological and chemical weapons being lumped together. In response, it was observed that resolution 1540 raises a barrier to terrorists in their attempts to obtain nuclear, biological and chemical weapons and will encourage states parties to join the CWC and BWC. On the other hand, it was observed that effective and comprehensive implementation of the resolution may take around five years. There will also be the problem of UN member states being in varying levels of compliance with the resolution. Nevertheless, it was noted that, at the very least, the resolution requires BWC states parties to do what is already obligatory, i.e., to implement it at the national level. What is novel about it is that it requires non-states parties to implement legislation which hitherto only CWC and BWC member states had to adopt.

### **Second Meeting of States Parties, 6-10 December 2004**

#### *Enhancing international capabilities to respond to alleged use or suspicious outbreaks*

A presentation was given on investigations of alleged use under Article X of the CWC and, more generally, on OPCW assistance and protection activities. A description of current activities was given including national capacity building as well as capacity building at the institutional level in the OPCW. It was noted that a decision had been taken by the Executive Council on a new format for submissions of information on national protective programmes (at its twenty-fourth meeting, 24 November 2004), that a databank on national protective programmes was being developed and that there were projects underway, including at the regional level, to help states parties build national and regional capacities in respect of protection. It was added that some of the regional projects have a three-year timeline. Training for first responders was also discussed including events in Saudi Arabia, ASEAN member states and Central Asia. With regard to institutional capacity building, it was observed that the OPCW is developing its international response programs and programs for delivery of assistance.

Turning to investigations in particular, it was noted that procedures under Articles IX and X take into account those used in routine inspections, however, it was emphasised that investigations of alleged use differ. It was noted that the UN Secretary-General can request help for allegations involving states not party. Investigations may involve chemical and explosive ordnance reconnaissance and environmental and biological/chemical sampling and analysis. However, it was observed that the OPCW's capacity at this time is limited in respect of biomedical sampling and analysis. It was added that there are labs that undertake this work but there is no Conference decision as of yet on this matter. Another aspect requiring further work was identified, namely, the ability to interview witnesses and casualties including, in some cases, refugees. It was noted that more work also remains to be done on fine-tuning command post operations but that work has been done in respect of administration and logistics support. The need for more work, however, on support in the event of a terrorist attack was stressed. Particular attention was brought to the insufficiency of available equipment and facilities used in routine inspections for investigations of alleged use; rather, what is needed are pre-packaged modules. It was also noted that the OPCW Technical Secretariat faces problems with regard to the export of dangerous goods necessary for some investigations and lacks enough money to do real-time exercises: the current focus is on scenarios, and new ones need to be developed. Lack of qualified experts was noted, including those trained in forensics, biomedical sampling and analysis, and crisis management. Turnover of staff was noted as one cause of this and as being detrimental to the Secretariat's capacity to carry out investigations of alleged use.

There was some discussion in response to this presentation, including on whether WHO and the OPCW cooperate and on whether the OPCW would be able to respond to chemical weapons attacks in countries beyond Europe. It was also queried whether assistance should, therefore, be centralised or regionalised. One participant stressed that the tenure policy was a grave mistake in light of the impact that it was already having on assistance and protection activities. In response, it was noted that there is some WHO/OPCW cooperation but that it is ad hoc and unstructured. Another participant noted that investigations of alleged use have public health implications and this implicates WHO, but that it should not undertake investigations and, in many cases, lacks the necessary technical resources to respond to alleged use of chemical, or for that matter, biological weapons. It was also observed that requests for assistance from WHO should in many cases be directed towards the OPCW and vice versa and that there is similar lack of coordination within governments. In response to the comment that assistance and protection should perhaps be regionalised, it was noted that there is a two-track process underway whereby the OPCW is helping states parties develop their own national protection capacities while also working on its own institutional capacity. With regard to the tenure policy's effects, it was observed that by the end of 2005, the Technical Secretariat will be devoid of expertise in this area. In addition, it was noted that there is an understanding now that there must be assistance and protection activities involving chemical industrial facilities. Allegations of chemical weapons use in Darfur were briefly discussed, however, it was observed that little more could be said about the matter at this time.

### **Strengthening national and international efforts for surveillance and combating infectious diseases**

It was observed in the first paper presented under this topic that a possible role for UNMOVIC, in implementing the BWC in the absence of an OPBW, might not be possible. Rather, it was argued that it would make more sense now to set up a body through the UN General Assembly and put it under the Secretary-General's control. This way all UN member states would have a

say on the matter and have the option of using it for issues that are not necessarily related to international security, for example, clarification. It was added that there would be no conflict with the OPCW or CWC, rather, this proposal would only be filling a gap in the BWC regime. It was noted that the United Kingdom made a proposal to the Meeting of Experts in 2004 to strengthen the power of the Secretary-General to authorise investigations of biological and chemical weapons use. Regarding biological weapons use, in particular, it was observed that there would have to be certain criteria in place regarding training, geographical distribution and confidentiality arrangements, and that there would have to be equipment under the control of the investigating body and a body which would be ready to go on mission on short notice. It was noted that, at the moment, the UN Secretary-General has the authority to act but no funding and that there are no standing arrangements for an inspections body; the UK proposal would correct this. It was also noted that a General Assembly resolution was recently adopted which sets up a panel in 2006 to explore verification and the UN's role in it.

A role for the Security Council was discussed: it could make use of the body described above if there was a threat to international peace and security. It was also noted that the Security Council should, in light of the recent UN reform report, take advantage of the Secretary-General's roster of experts for biological weapons-related matters.

Another issue that was discussed was how such a body would avoid undermining the IAEA and OPCW. It was noted that the UN Secretary-General can already call upon inspectors, as he did for Iraq, who function independently of the weapons treaties and their respective institutions, and who can conduct significantly more intrusive inspections. The focus, of course, would be on biological weapons because there is currently no OPBW nor other standing arrangements in place for verification of the BWC. It was added that having such arrangements would be a deterrent and an alternative to military action.

One participant raised the issue of how verification of the BWC would be achieved, whether through UNMOVIC or through the Secretary-General's rosters of biological and chemical weapons disarmament and verification experts. It was observed that, on the last point, the Meeting of Experts recommended updating the General Assembly resolution 42/37 lists of labs and experts. On the other hand, it was observed that it was unlikely UNMOVIC could accept the mandate of BWC verification. Another participant agreed, noting that UNMOVIC and UNSCOM were set up for specific purposes, and adding that it was necessary to distinguish between alleged use and assurance of compliance. He added that the IAEA and OPCW give assurances of compliance with regard to nuclear and chemical weapons and that a similar mechanism is needed for the BWC. Other participants argued that it was important to preserve UNMOVIC's capacity in respect of biological weapons-related inspections, especially in the event that a state is uncooperative and intrusive inspections are necessary. Another noted that UNMOVIC's verification expertise was broad and that there is no other body of experts with this integrated knowledge, but the question remains of how to keep it alive. It was added that arguments against a standing inspection capacity were undermining the NPT and CWC regimes with their own inspection teams for nuclear and chemical weapons. On the other hand, it was observed that a standing regime with intrusive powers beyond those of the IAEA and OPCW teams, in respect of nuclear and chemical weapons, would not be supported by states parties. It was generally agreed that the focus should, therefore, be on creating an institution for inspections related to biological weapons.

In response to all of these comments, it was noted that (i) a new body for biological weapons-related inspections is needed because there is not one at this time, (ii) UNMOVIC cannot

continue indefinitely because it does not have a mandate to do what is needed in this area, and (iii) it would be advisable to start with the Security Council and Secretary-General because they already have the authority to order inspections. The Security Council, for example, could authorise an inspection under Chapter VII of the UN Charter, demand compliance, and enforce measures in extraordinary circumstances. It was added that there could be a small biological weapons-inspection body limited to alleged use, but having the capability to train existing inspectors. In practice, it could consist of a small permanent staff that can call upon experts with appropriate expertise who are trained to work together and take a multidisciplinary approach. Additionally, the body should be insulated from UN politicization; for example, it should not be under UNDDA control. In short, it was argued that this proposal could be part of an evolutionary process towards an OPBW until such time as one is established.

Another presentation addressed the 1948 Arab-Israeli war and alleged use of biological weapons. It was argued that allegations of biological weapons use are often unresolved in the absence of formal admissions in internal and international conflicts, even if there is an investigation. Examples were given of events that are still disputed including the alleged sabotage of water wells with disease-causing organisms by Israeli soldiers in Acre, near Haifa, and Gaza. It was argued that it is difficult to prove biological weapons use unless the perpetrators are caught in the act and that this is compounded by the fact that the act does not necessarily need to be complex. In response, it was noted that there is often a loss of facts during wartime, especially in places where literacy is low and records are poor or not kept. It was added that there has been much progress since then, for example, information can now be obtained through forensic analysis.

### **Third Meeting of Experts and of States Parties, 2005**

#### *Codes of conduct for scientists*

Considerable attention was given by the workshop participants to this topic, particularly because it will be the focus for discussion during 2005 in the context of the Inter Review Conference Process and related Meetings of Experts and States Parties. A brief presentation was given on the development of the ICRC's "Principles of Practice", which are directed towards individuals working in the life sciences. It was noted that the development of these principles is part of a broader ICRC effort known as the Biotechnology, Weapons and Humanity project launched in September 2002. The principles are intended to raise awareness among those working in the life sciences of the dangers of misuse of biotechnology and to make a link between legal and ethical norms and best practices in the field. A query was raised as to the definition of 'webs of prevention'. In response, it was noted that several actors, each acting with an awareness of the need to prevent the misuse of biotechnology, strengthens the overall effort. It was added that awareness of ICRC's "Principles of Practice" was being promoted through bilaterals with large companies, letters, meetings in Brussels, posters to labs, etc.

Another participant discussed an ethical approach to the dilemma of dual-use agents and technology that can be used for peaceful as well as harmful purposes in the life sciences. It was argued that religious and non-religious traditions, including tenets of Catholic social teaching, may influence the development of codes of conduct. It was observed that, whereas laws are hard and enforceable, ethics are personal and belief-based. It was noted, in particular, that it would be difficult for legislators to legislate ethical codes for life scientists given their unfamiliarity with the field, accordingly, such codes must come from scientists themselves.



Turning to specifics, the participant noted that Catholic social teaching already provides several tenets which could serve as a basis for an ethical code in the life sciences, including the norm against killing, justification for defending oneself in the event of a just war, rejecting the arms race and terrorism, and promoting peace. It was observed that science and technology are not morally neutral, therefore life science projects should be evaluated based on, inter alia, ethical standards, and ethics should be taught to life scientists at an early stage. Participants appreciated that this approach considers values but emphasised that codes should also take into account the sensitivities of some societies. Other participants cautioned, however, that a multicultural approach to codes of conduct could be complicated and create tension between different groups or, alternatively, such codes might offend by imposing one particular set of beliefs or be too flat for fear of offending. In response, the speaker noted that development of codes of conduct should be open to debate. With regard to the problem of imposing one set of values on others, it was noted that the Catholic church does not consist solely of practitioners from the West and that input from other religious traditions would be welcome.

A presentation followed on a practical approach to codes of conduct. In particular, it was suggested that Recommendation 21 of the UN working group on the UN and Terrorism be taken into account, which addresses codes of conduct for scientists engaged in work relating to weapons of mass destruction technologies. The aim of this proposal would be to ensure that activities involving biological toxins and agents are used for peaceful purposes in line with the BWC's general purpose criterion. Target communities would include academia; the public, animal and plant health communities; industry; and government. It was observed that it would be unrealistic to assume that there will be a new code of practice in respect of dual-use biotechnology, rather, existing requirements could be integrated into rules for the life sciences. Examples of existing codes in the United Kingdom that could serve as models were also noted, including those for health and safety at work (especially risk assessment procedures), protection of the environment, export control, and animal experimentation. It was added that international regulatory frameworks should be considered, for example, EU regulations. In conclusion, it was noted that this practical approach focuses on whether certain activities are lawful, while picking up considerations in respect of nuclear, biological and chemical weapons and with the added benefit of being cost-effective. Participants noted that what may be best practice in the United Kingdom may differ elsewhere. The problem of inadvertent activities, which could be enormously destructive, was also flagged in light of the BWC's general purpose criterion. It was suggested in response that there should be an ethical review process whereby life scientists' work is reviewed to determine whether it is harmful in or out of the lab or has hostile purposes, and that this would satisfy the requirements of the general purpose criterion which only permits peaceful uses of biotechnology.

Another participant noted that different contexts raise different legal issues but that, ultimately, biodefence and industry, in addition to inadvertent and advertent activities, must be covered by codes of conduct. Related to this final point, a presentation was given on how codes of conduct should be informed by biodefence considerations. As an initial matter, it was noted that scientists must follow processes that confer legitimacy on the programmes they work on. It was added that this requires review, a search for truth, and scepticism. As a practical matter, biodefence codes of conduct must be informed by threat and risk assessment. In addition, the operational response framework must be considered, which covers everything from known or anticipatable agents and agents falling in a grey zone, to unknown or novel agents. It was explained that known or anticipatable agents are predictable and exist within a limited threat space. Unknown agents, on the other hand, are unpredictable and the threat space is infinite. It was added that the lead time for responding to known agents is long, agents in the grey zone

can create trouble, and one cannot plan or prioritise responses when unknown agents are involved. Rather, generic responses with a short lead time have to be developed but it was noted that such a system, regardless, could be beneficial for public health purposes. For the moment, it is simply too expensive to move unknown agents into the slightly more manageable grey zone. The speaker observed that threat assessments must include identifying threats in order to develop countermeasures. At the moment, however, there is a gap between what can be dealt with today and what may arise tomorrow, even though threat assessments must be accurate and reliable. It was added that certain agents, in particular, will require advance lead time but, in respect of their use by terrorists, there is still time to address the matter. It was also observed that codes of conduct will be a crucial part of this process. In conclusion, it was argued that if the knowledge gained by studying certain agents will have a positive impact on biodefence then it could be pursued. However, it was argued that there should nevertheless be a strategic and operational framework which forces life scientists to think through the entire process.

In response to this presentation, it was first argued that there is a tendency to exaggerate threats. It was added that certain kinds of attacks are hypothetical but that, nevertheless, we must consider the probability that a certain event will happen and consider whether the people we are worried about have the capability to carry out worrisome events. Another participant noted that threat assessments differ in different countries and that this influences the kind of work that is undertaken. It was observed, for example, that in Sweden small programs are looking at real threats whereas, in the United States, threat analysis tends to be governed by politics which then affects government scientists and their work. In light of this, it was added that discussions of threat assessments are truly difficult in multilateral contexts. A participant observed that institutional review boards already exist in the United States and that there are available models in the Departments of Defence and Health and Human Services for the life sciences. In response, one participant noted that there is much more money in the United States for work in the life sciences so less attention is paid to threat assessments, in contrast to the situation in Europe where careful thinking must come first. Another participant also responded by noting that a large amount of money is going to biodefence, sometimes at the expense of public health and that many scientists simply follow the money. It was added that review boards are largely inactive in important labs in the United States. With respect to codes of conduct, in particular, it was noted that the governments funding the scientists should also be subject to their standards and that it was unfair to direct them just against scientists interests'. In response to these comments, the speaker agreed that the root of the problem internationally is that threat analysis differs throughout the world. So, for example, a US solution is needed for US problems. He also agreed that institutional review boards are weak right now but could work if they functioned in the context of codes of conduct.

A presentation was given concerning a survey of institutional biosafety commissions in the United States. It was noted that these commissions operate under guidelines not law, yet they review bioresearch and biosecurity projects. The survey was undertaken in light of a recommendation by the National Academy of Science, with an initial focus on the commissions' transparency. It was noted that 90 per cent of the registered commissions were asked to complete the survey and then asked to comply with biosafety guidelines. However, it was observed that very few of the commissions responded to the survey even though their records must be made public to be eligible for funding. It was added that, in some cases, this was because the commissions simply do not exist or do not meet if they do. In short, it was observed that this system of biosafety commissions has been in existence for some thirty years and has been charged with overseeing dual-use bioresearch, but it does not function well at all.

Several examples of this were provided including meetings at which no minutes were prepared and commissions that met for the first time in response to the survey. Other commissions had only met once, agreed to meet again, and never did. The speaker described the conclusions drawn from the survey including: the recommendations of the National Academy of Science must be implemented because the system is in disrepair, this voluntary system is stronger than codes of conduct but many institutions do not use it even though they have been directed by the National Institutes of Health to release information, the lack of lab biosafety laws in the United States is untenable, and the guideline system is not working.

A paper was presented next on how scientists will have to take the initiative in regulating themselves, including applying ethical practices, in light of the explosion of activity in the life sciences and the dual-use nature of biotechnology. The speaker's reservations about ethics were noted, however, including concerns about who is the ultimate authority in this area and different cultures having different moral principles. A problem-oriented approach was proposed, based on a model by Wolfgang Binder, whereby the life scientist makes an assessment of the aims and benefits of his or her work and based on a set of rules. To take vaccines as an example, their development is legitimate but one must also look at the means used in developing them to obtain a greater safety model. Accordingly, if there are devastating effects as a result of developing a certain vaccine, it must be rejected even though there may be some benefits. On the other hand, the risk of abandoning the project must be weighed, especially if that risk is greater than the one posed by continuing the experiments. Practically speaking, it was argued that licensing of all facilities and scientists working with potential biological warfare agents is necessary, and that periodic inspections would also be appropriate. It was added that all scientists must receive training on the BWC and on models for decision-making. In other words, licensing programs should not just address biosafety but also the requirements of the BWC so that scientists are aware of their responsibilities during the course of their projects. In response to this presentation, a workshop participant observed that many scientists feel that they have little opportunity to make individual decisions because they are part of large research programmes, and that they must excel to ensure career recognition and to make money. In other words, it was suggested that individual experiments should not be the only consideration here.

The next presentation under the topic of 'Codes of Conduct' emphasised that the overall aim of standard operating procedures (SOPs) for labs should be biosafety and biosecurity. It was noted that SOPs have already changed in labs because of a heightened threat of misuse of toxins, organisms and other dual-use biotechnology. It was added that codes of conduct can be beneficial, but that there must also be regulations with sanctions for violations thereof. The speaker observed that the biosafety framework in the United States, in particular, emerged out of work on the matter in the 1950s. It was, therefore, suggested that the wheel should not be reinvented in 2005 during the Meetings of Experts and of States Parties. It was also observed that the framework for biosecurity is already contained in Article I of the BWC, i.e. the general purpose criterion. In light of these considerations, it was suggested that from this existing framework the focus should be on duties, and that anything less might imply that there is some question as to the agreement on the universality of the norms against chemical and biological weapons.

In response, it was noted that a framework based on moral agency assumes that nothing goes wrong. It was also argued that the US model is a failing one, yet is being promoted in other countries. Another participant gave a lengthy intervention, starting with the observation that in 2005 the mandate of the Meetings will be codes of conduct for scientists, not codes of conduct

for scientists doing biodefence work. It was added that the issue may be informed by inputs from highly regulated developed States Parties but that areas needed to be identified requiring self-regulation by scientists. Turning to what might be discussed at the Meetings in 2005, it was observed that the States Parties have different approaches on the legal aspects of codes of conduct, as well as wide versus narrow views of them. In particular, it was noted that if the discussions focus on practice versus conduct, no decisions will be reached. It was added that there will be no progress if the discussions start from the point of view of ethics nor if they focus on who will be subject to the codes. It was stressed that the Meetings must be pragmatic and its results must apply to all those involved with the life sciences, up to and including CEOs of companies setting up dual-use biotechnology projects. It was added that the codes must be informed by scientists' views, including an understanding of whether what they are doing is wise versus whether it is allowed, which is more of a legal issue. The notion of whether a particular project is wise requires a scientist to determine whether a project is beneficial or not. It was argued that, practically speaking, the discussions should not be focussed on top-down approaches (government initiatives) but rather on bottom-up approaches (scientist and industry initiatives). In other words, governments should take notes, take them home and let scientists and industry sort out how they should proceed. It was added that it would also be useful to make scientists and industry representatives aware of their duties and for them to come to the 2005 Meetings. In short, the workshop participant proposed a basket of approaches, addressing ethics, the legal framework, and codes of conduct.

Several other participants continued to discuss this matter. One noted that codes of conduct have their limits and are not a panacea, rather, they should only be one part of several measures. It was added that the entire situation needs to be looked at from an ethical point of view, that is, is it ethical to develop biotechnology for harmful purposes or to protect one's country? The participant also raised the issue of how to bring the message to the appropriate targets, for example, through education with UNESCO playing a role or through ISO standards for labs. In response, a participant noted that both ideas have been looked at but the relevance of the BWC to UNESCO and the ISO was unclear. It was suggested that education should begin with states parties. Another participant agreed that ethics play a major role in the process, noting that they do not always differ from one group to another nor necessarily have to start with religion. There was agreement from others on the latter point. He added that ethics and codes of conduct must come from within a community and not be imposed from the outside, and that the process starts with training and getting life scientists to think about the consequences of what they are doing. In response to this point in particular, one participant noted that some scientists are a long way from recognizing that there is even a problem.

Some participants turned to mechanisms versus processes, arguing that codes of conduct should be looked at from both points of view, that is, from outside in and vice versa. Another participant noted that it would be problematic for scientists to define standards for themselves because this would lack a context, which codes need. It was added that codes are broader benchmarks for a process and that they cover those matters that cannot be regulated, whereas regulations are tightly defined and, once promulgated, are hard to change. Thus, codes are just one part of the process and education about codes is another.

One participant argued that the issue should be looked at from an economic point of view, that is, biotechnology as a 'service' with clients and providers. He added that because marketplaces are inherently amoral, codes of conduct will be trumped by the marketplace even if the codes are desirable, and that they only increase the value of the 'services' by reducing the available supply. He concluded that there must, therefore, be a system of sanctions to back up the codes.

Another participant observed that one fundamental issue the BWC states parties could talk about is what is legal and illegal under the BWC. She noted, however, that they have yet to reach an agreement on this and cannot, therefore, possibly ask scientists to behave in certain ways in conformity with codes of conduct. In other words, scientists cannot do their work without governments doing theirs first.

The speaker on the final paper under this topic argued that the focus of codes should be on addressing the gap in regulations for the conduct of research. It was added that there are ethical codes, codes with voluntary guidelines and codes of practice with enforceable requirements: each of these types of codes are distinct but interrelated and needed. It was noted that, in response to the threat of terrorism in the United States, experiments of concern, including DNA experiments, have been added to National Institutes of Health guidelines for research related to biotechnology. It was also noted that a new biosecurity panel will be established under the guidelines, and that they establish national and local oversight and codes of conduct. The speaker observed, however, that these guidelines are only voluntary and consciousness-raising but do not go far enough because certain industries and government research (including classified research) are excluded, which are two key sectors of the life sciences community. It was added that the guidelines are only advisory, not legally binding, and do not address the international angle of this problem. The speaker argued for a comprehensive, mandatory, binding and global set of uniform procedures and standards with licensing and peer review of experiments before they are undertaken. The system would build on existing institutions and be a tiered system with a national review board as well as an implementing body at the global level to oversee the most dangerous work, similar to WHO's oversight over smallpox research in the United States and Russia. With regard to codes of practice, the speaker noted that the mechanisms to prevent terrorists from misusing biotechnology are overstated, rather, the greater threat is inadvertent damage, arising out of great advances in science. Accordingly, though codes of conduct would be consciousness-raising, the codes of practice described above would be part of a binding and enforceable system.

In response, it was noted that the proposal above is limited to pathogens/infectious disease agents but that some things, for example, the agent used in the Moscow theatre, do not fall into this category. In other words, the proposal appears to be more about controlling dangerous research. Another participant noted that the proposal seems more concerned about inadvertent rather than deliberate consequences. Accordingly, it was queried why we should be concerned about terrorists if they cannot do this work. With regard to peer review in particular, it was noted that it only looks at the science but not necessarily the broader biosafety/biosecurity context. Another participant agreed noting that scientists' estimation of risk differs from that of other people and that peer review may not necessarily be useful as a consequence. It was added that what is needed are denominators of risk, that is, a determination of how many people have nothing to do with biodefence work or are working on select agents. It was observed that the other problem is how to have effective constraints on research when science and industry are international and so many governments are involved, especially if there is no transparency at the state level. The speaker responded to these comments by first suggesting that whether industry will opt into the guidelines is an open question but that the National Institutes of Health has said that they will become mandatory if they do not. On the question of whether the proposal covers research using nonpathogens, it was noted that as the proposal develops, the process needs to be adaptable to new threats. The speaker confirmed that the threat of terrorists using existing knowledge for harmful purposes was less likely than new knowledge being inadvertently and wrongly applied. With regard to the comments about peer review, it was observed that scientists must play a role in this process but that oversight would have to involve

other actors as well. Finally, it was noted that the dual-use problem is not limited to biodefence work alone, and that an international response to the dual-use problem could include codes of conduct as well as internationally agreed rules and procedures, perhaps in the form of a treaty, with obligations that states parties must implement nationally.

## **TOWARDS THE SIXTH REVIEW CONFERENCE AND BEYOND**

### *Is the dual-use problem changing?*

The first paper under this topic discussed the overriding need for full transparency to ensure biosecurity. It was noted that people are placed at greater risk if there is little or no transparency along the biosecurity chain. Some initial observations were made, for example, it was observed that biological weapons are different from nuclear and chemical weapons because they are associated with disease and temporal delay. It was added that there are institutions to protect public health against disease but that this is not true for chemical or nuclear weapons. It was argued that, accordingly, there is something about biological weapons that goes against the essential value of life sciences being for the benefit of humanity. Turning to the paper, the speaker noted that secrecy in respect of dual-use biotechnology is simply wrong. Examples were given, including experiments by the Japanese in China which had negative consequences for the Chinese. As a result of the secrecy surrounding the experiments, however, their claims were not considered legitimate after the fact. Other dangers were pointed out, namely, the manipulation of information to obscure threats or the manipulation of threats. It was argued, for example, that information regarding the anthrax letters event was manipulated by the government, obscuring the threat to postal workers and others. It was argued that the government also manipulated the smallpox threat using fear, leading to a call for vaccinations. A website developed by students, in response to the construction of a biotechnology lab at Boston University, was discussed as an example of ways to promote transparency in this field. This was considered especially important in light of scientists' naïveté with regard to accidents in labs and the hazards of doing classified work. In concluding, the speaker observed that disease models elicit complex responses which cross organisational boundaries, including the health, military, and intelligence fields and that these organisations also have possible international linkages. It was emphasised that the public can be placed in jeopardy if vital information is distorted or hidden. It was argued that comprehensive efforts at transparency are therefore needed among the CDC, the FBI and other intelligence agencies, and local communities to reduce risk at every juncture. A participant responded by noting that scientists tend to underestimate risk and queried whether it was wise to let them do the decision-making on their own, particularly because they stand to gain from their own risk assessments. The speaker agreed, and added that they do not see the consequences nor the career implications of doing classified work.

The next speaker observed how the dual-use problem has changed the regulatory landscape such that the object of control now is technology, versus weapons, and the actors subject to these measures are not traditionally associated with security issues. It was added that the questions that arise are whether these actors are being addressed correctly and if the concept of 'dual-use' is being clearly explained to them. It was noted that the paper was part of a larger work focusing on technology studies, which reconceptualises the relationship between technology and science. In other words, technological development is a complex activity with links to science. It was observed that technology can be seen as having three interacting parts: the physics of the artefact, which determines how technology behaves; an imposed function that guides people's interactions with the technology and determines how it should behave; and

a technological regime within which the other two parts operate. An example was given of the CD, which can be used for different, even unintended purposes, accordingly, the change in use is associated with intention and the key is the appropriateness of the use. The speaker argued that if the dual-use dilemma is translated into the technology debate there are parallels, however, technologists do not see dual-use as an inherent property. That is, they do not perceive that technology can be automatically used for weapons purposes, rather, it depends on the context such that technology can be used for good and exploited, or for bad if banned and proliferated.

Another paper was given under this topic on whether risk assessment can be a useful method for governing dual-use research. It was asserted from the outset that risk assessment can be useful if its limits are recognized, and that it is only one tool among others. It was noted that the paper looked at dual-use in context and offered a definition of risk. Risk assessment, in particular, was defined as a way of looking at how to manage risk, including giving risks a value in order to rank and compare them. It was observed, however, that these values cannot be scientifically proven. It was noted that the question of how to harmonise risks arises from the results of risk assessments. Practically speaking, risk assessment requires an analysis of the nature and location of the risk in question, the probability of the risk occurring, vulnerability, and the resources with which to manage the risk. Lack of data was highlighted as a potential problem in respect of the probability element. On the other hand, it was noted that analyses of vulnerability and the resources to manage risks are fairly easy to determine. Alternatives to risk assessments were noted including vulnerability studies and scenarios. The speaker concluded by noting that risk assessment can be a useful tool for policy makers, especially because it highlights gaps in respect of addressing dual-use technologies. The limits of its usefulness were nevertheless emphasised.

Participants had several comments regarding the previous two presentations. With respect to the argument that technology is neither inherently good nor bad, a participant observed that the intent underlying biodefence work in the United States could always be claimed to fall under Article I of the BWC. He added that using dual-use technology for beneficial purposes is a matter of trust, accordingly, it would be useful if scientists could build this trust. On a final note, he observed that the legitimacy of risk assessment is questionable because it cannot be separated from politics. Another observed that we have moved from a century of development to a cornucopia of dual-use technology, and that the problem is not just a single experiment but entire programs, including ones that should not be pursued. In response, the first speaker noted that if we do not assign the properties of good and bad to technology, we have to look at context and intent. It was argued that a good way forward, from funding to the end of the project cycle, would be to assess context, use, and intention. The second speaker agreed that risk assessment models could work at the research program level, not just at the level of the discrete experiment.

*What outcome would be regarded as successful?*

Several papers were presented on this crucial topic. The first speaker observed that the first four review conferences successfully adapted themselves over the years to address the important issues at the time. On the other hand, it was noted that the Fifth Review Conference, held in 2001 and resumed in 2002, was focussed on rescuing the BWC regime and concluded with five topics for discussion during the intersessional period, known as the New Process. A brief description of the Inter Review Conference process, including the Meetings of Experts and of the States Parties, was given. The question was also raised of how successful these

meetings have been so far for discussion of each of the topics and promotion of common understanding and effective action. It was observed, for example, that the language in the Fourth Review Conference document regarding the implementation of penal legislation was stronger than that in the document arising out of the 2003 Meetings, and that there was no action plan for national implementation of the BWC similar to the OPCW's. The speaker noted, however, that there was real promise for a positive outcome at the 2004 Meeting of the States Parties, based on the Meeting of Experts document, as well as for the 2005 Meetings (Codes of Conduct). The speaker asserted that the Sixth Review Conference needs a final declaration to reaffirm and further extend common understandings and that a failure to do so would erode the BWC regime. He added that an institution is needed to carry the regime forward because it needs strengthening, and that there was a need for a legally binding instrument to strengthen the effectiveness and improve implementation of the BWC. He acknowledged, however, that there is still some tension in respect of these matters. Turning to planning, the speaker asserted that stakeholders must start thinking now about the Inter Review Conference process outcomes, confidence-building measures (CBMs), and a legally binding instrument. He added that there must be early consideration of several outstanding issues, that the states parties' political commitment of 1998 must be recalled, and that there must be a contingency plan in case the Sixth Review Conference is unsuccessful.

In the second presentation, it was observed that a successful outcome to the Sixth Review Conference depends on where you stand, for example, from within the US or UK governments or from the point of view of an NGO. He added that events between now and 2006, including individual agendas, will shape matters. For example, CBMs were successful because they were planned by some states parties. The speaker argued that a line needs to be drawn under the past and that mention of the Protocol, a legally binding instrument or international negotiations on these topics could be problematic. On the other hand, he observed that there are still available options and that it would be impossible to dodge negotiations on a 2006 Review Conference declaration.

A third speaker under this topic observed that the Inter Review Conference process has been an interim 'something' but that there is still no progress, for example, on national implementation of the BWC (although he added that adoption of UN Security Council resolution 1540 may speed things up). He asserted that the European Union and associated and like-minded states parties must outline a constructive and realistic way forward, starting now, with the help of the NGO and scientific communities. It was added that there must be support and a continued process for meetings where groups of states parties can identify and evaluate measures to strengthen the BWC, for example, a VEREX-like group, which could take into account new initiatives and how they relate to the BWC. He added that these measures must be evaluated in order to determine which would fit in the BWC framework and which could stand alone. These might include: reviewing work on legislation, evaluating progress on Article V and how to make the consultation process work, possible revision of CBMs, the establishment of a scientific advisory panel, assistance and protection in the event of use by non-state actors (taking into account what WHO is already capable of doing), and work on establishing an OPBW preparatory commission. Complementary measures were also suggested or confirmed including those in respect of national oversight, a CBW criminalisation convention, a biosecurity convention, industry involvement, a verification mechanism under the UN Secretary-General, work under resolution 1540, surveillance of disease, PSI, biosafety regulations, and licensing. With regard to CBMs, in particular, it was suggested that electronic filing could be considered, the poor numbers of returns should be addressed, and perhaps some of them could be made mandatory. In concluding, the speaker emphasised that there must be a



Sixth Review Conference declaration which points the way forward, including, at the very least, formal meetings, mandatory and new CBMs, and a processing unit for declarations.

In response to these presentations, a participant observed that all of the proposals were good. However, he observed that following the 2001/2 Review Conference, efforts were driven by concerns about anthrax attacks and terrorism and became a highly fragmented process. He argued that stakeholders must go back to see how activities surrounding the BWC can be integrated into it. He added that if this is not successful, what is left must be evaluated, namely Article I and its preservation in the face of changes in biotechnology and what has already taken place under the auspices of biodefence. With regard to national implementation of the BWC, he asserted that resolution 1540 does not let this work take place within the context of the Convention. He also observed that it will be difficult to continue with CBMs if there is not agreement on them already. A participant disagreed that BWC activities were taking place in other fora and that what has happening under resolution 1540 was unclear, but the Review Conference could comment on whether states parties were in compliance with Article IV.

Another participant argued that the focus of the Sixth Review Conference must be on the minimum so that it does not collapse. She added that annual meetings could be useful. The possibility of a modular approach to implementation and verification systems was raised, including a BWC technical support unit set up outside the treaty regime, which could assist with universality, implementation, coordinating meetings, and serving as an information clearinghouse for all BWC states parties. She added that such a body may not be necessary as a result of resolution 1540. However, she noted that it could be a modest start for institution building. Another participant noted that discussion of a legally binding instrument at the Sixth Review Conference was not completely unreasonable because there was willingness to discuss it before July 2001. It was suggested that, alternatively, negotiations on sensitive topics could take place elsewhere if not at the Review Conference. The participant added that a list of agents to be controlled could be the basis for a decision. Another participant noted with approval that civil society was ahead of the states parties in respect of carrying the BWC regime forward, but observed that at least there was some multilateral process in place for the time being, i.e., the Inter Review Conference process. He added that some state parties would have liked to put a verification mechanism on the agenda for the Review Conference and that there was disappointment over the failure of the Protocol, but that resolution 1540 may have imposed some limits on what can be done for now. It was suggested by a participant that perhaps it is not a bad thing that biological weapons issues are moving away from the BWC to where the power is, and that it is critical that the Sixth Review Conference strengthen the norm against misuse of dual-use biotechnology. In response to this comment and concerned about the fragmentation of the BWC, a participant observed that it would be useful to have a body such as the DDA to house offers of assistance, including regional and bilateral offers. Another participant raised the question of what will be discussed at the Sixth Review Conference in respect of the Inter Review Conference process, and queried what the point would be of meetings after the Conference if nothing arises from the intersessional Meetings. It was emphasised by another participant that there are certain things that must be done before the Sixth Review Conference, including the reaffirmation of the BWC's basic prohibitions and political action by states parties willing to take the risk, as well as more publicity about the BWC and the upcoming Conference. He suggested that it is too early to predict what the Conference will look like, but that it would be a good idea to develop several action scenarios.

Turning in particular to the impact of the Protocol's collapse in 2001, a participant observed that it was easy to blame the United States in the beginning for it but that, ultimately, all states

parties were responsible. He recommended that the plenary session in 2006 decide on how to move ahead and not revisit the shadow of 2001. He also suggested that the results of the Inter Review Conference process be focussed on strengthening the Convention, and that the states parties must decide how they want to do this. Another participant agreed that there was a danger of the 2006 Conference being informed by what happened in 2001 and in assigning blame to one state party for the collapse of the Protocol. He agreed that a modular approach to strengthening the BWC regime would be acceptable, if voluntary. He added that it is in the states parties' hands in 2006 as to whether they want the BWC to be at the centre, or at the periphery once again as it was in 2001. Based on past practice, he suggested that the Sixth Review Conference review the BWC regime in toto.

*How to deal with outcomes of the Inter Review Conference process?*

A presentation was made under this topic on how to remedy the BWC's institutional deficit. The speaker observed that organisations are needed for practical reasons, such as to carry out those things states parties must do collectively, rather than what they can only accomplish at review conferences. He added that the BWC in fact needs an OPBW, but that it would be unrealistic to try to establish one at the 2006 Review Conference. Accordingly, he suggested that less ambitious arrangements are needed, perhaps a body that could carry out some of the proposals highlighted by earlier speakers, as well as older stream activities and those arising from the Inter Review Conference process. He observed, however, that such a confluence will not happen without care. Regarding the final declaration of the 2006 Review Conference, he noted that it may not be confined to products of the Inter Review Conference process, and that they would only be one set of many inputs. He added that the Review Conference should range over the entire BWC regime and that this should be reflected in the final declaration. Concerning results of the Inter Review Conference process, he observed that some states parties are already discussing annual meetings, and added that one topic for these meetings could be scientific and technological developments. It was noted that a scientific advisory panel might be useful for enabling states parties to have early warning of threats to the BWC regime and that it could report to the annual meetings. As a fallback, the speaker asserted that a bureau could be authorised to hold open-ended meetings at its discretion, which would combine a nucleus of responsibility with breadth of participation. He added that efforts of the Conference Secretariat prior to the Sixth Review Conference should be consolidated into the Secretariat in the years following the Conference, short of turning it into an OPBW. Finally, he noted that the suggestions above would not require any kind of amendment process, rather, they are within the power of the Review Conference to adopt.

*How to deal with unfinished business?*

Confidence-building measures (CBMs) were the first item to be discussed under this topic. The speaker started by giving a brief history of these measures and noted that, thus far, only 89 out of 152 current states parties had submitted any. He also discussed one state party's efforts in respect of CBMs, including a handbook, demarches to states parties on submissions of CBMs, technical assistance, bilateral approaches during meetings, and highlighting CBMs during speeches. The speaker urged that, in moving forward, more CBMs should be submitted and in a timely manner. He added that there is a lack of analysis of what has been submitted and noted that translation costs were considerable, but argued for more assistance in preparing CBMs, translation, discussion of the measures at meetings, greater accessibility to them, and greater transparency to improve accountability.

Another speaker discussed a report that had been prepared for the Dutch presidency of the EU indicating what Europe could do for the Sixth Review Conference. It was noted that Europe had several options: the first was to aim high and call for some kind of verification and compliance mechanism but it was cautioned that this could create tension with the United States. The second would be a minimalist approach with a bland final declaration and an agreement to meet again in 2011. The third was a middle approach whereby Europe could, through its soft power and under its WMD strategy, put a non-proliferation clause in trade agreements. It was added that the EU could also create expertise within the EU and encourage informal assistance efforts in respect of implementing the BWC with the objective of something more formal down the road. On the other hand, it was noted that submissions of CBMs were down in Europe, making it hard for it to look serious about the BWC. Accordingly, the speaker argued that it might be useful to take a look at who has called for an OPBW but has not been submitting their CBMs. He added that it would also be useful to start identifying members of the diplomatic corps who will be in posts during the Sixth Review Conference for contact and long-term decision making.

The next speaker briefly mentioned the United Kingdom's suggestion at the Fifth Review Conference for meetings at which scientific and technological developments can be discussed. He noted that his paper reviews these developments over the course of some of the earlier conferences. Related to this, another speaker discussed a report calling for the need to enhance regulations governing genome data, particularly in light of their dual-use potential. He noted that thought should be given to formal methodologies and risk assessments for evaluating the benefits and costs associated with genome data, and added that there should be a review of how this data could be used by terrorists and of its availability on the internet, and of whether it is subject to export controls. With regard to the transparency of genome data, he noted that some information probably must be withheld but that we must be satisfied as to why it has been, who has made the decision, and what has been kept back.

The final speaker at the 2004 workshop on the BWC discussed The BioWeapons Prevention Project (BWPP) - a global civil society activity - and its aims and objectives. It was observed that non-governmental organisation participation in monitoring the BWC is limited, accordingly, BWPP is addressing this shortage of attention by creating a global network to strengthen the norm against misuse of biotechnology. The success of the project in South Africa was briefly discussed, including positive responses from government, industry, scientists, and academia. It was noted that a course had been prepared on the norm against misuse of biotechnology, regulations and ethical decision-making, and that BWPP hopes to make this course available to all life science students. BWPP's efforts to mark the upcoming 30th anniversary of the BWC were also noted.