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CONTROLLING THE BW GENIE

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Biological Weapons (BW) are arguably the most elusive of all the Weapons of Mass Destruction (WMD) to control or eliminate. They are relatively cheap to produce. The prototypes exist almost everywhere. A possessor/user needs only tiny quantities to produce significant effects – psychologically if not physically. They are easily concealed, and relatively easy to transport. Potential production facilities abound. An active bioterrorist operation (known as Nature) is constantly refining and improving the list of available pathogens all around the globe. All of these factors complicate the potential for physically controlling, containing, and eliminating BW on a global basis.

In addition, the fundamental international agreement against BW, the Biological and Toxin Weapons Convention of 1972 (BWC), is the shortest, least detailed, and least enforceable of all the existing legal documents addressing WMD. The genesis of the document, written in the middle of the Cold War and resulting from, as much as any factor, the United States' decision unilaterally to forgo BW as a national programme, certainly reflects the status of the world at the time of its writing. Nation-states were the international actors, and potential military operations of significance were perceived to be large-scale to enormous-scale conventional operations potentially escalating to nuclear exchange. (The ongoing Viet Nam conflict was still thought of as an aberration, not a model.) The document also reflects, perhaps due to the sagacity of its authors, a pervasive ambiguity about how to control BW.

The BWC divides the fundamental prohibitions in Article I between “agents and toxins” themselves, and “equipment or delivery means.” The active and unique part of BW, the agent or toxin, is prohibited from development, production, acquisition, or retention “...of types and in quantities that have **no** justification for prophylactic, protective, or other peaceful purposes...” (emphasis added.) The second part of Article I then turns to the weaponization, and completely prohibits materiel “...**designed to use** such agents or toxins for hostile purposes **or in armed conflict**.” (emphasis added.)

From this language, the authors clearly thought weapons (including munitions) programmes using biological agents as the active ingredient were unambiguously prohibited. They did not get it completely right, because the emphasized words “designed to use” permit those who parse treaty language

for maximum evasiveness to argue since the inception of the BWC that there is ambiguity whether dual-capable munitions and delivery systems are affected by the BWC at all, or rather that only BW-unique systems are affected. Likewise, the growth of terrorism has mooted the universal coverage of the phrase “or in armed conflict” although leaving the broad prohibition against “hostile use”.

Even more potentially confusing is the little word “no” in the first part of Article I preceding “justification.” There clearly is a threshold of mere possession of such classic agents as anthrax or smallpox that would remove all ambiguity about their being intended as part of a weapons programme. But, especially given the self-reproducing properties of agents, where is the lower bound of such a quantity? That, for six years during the 1990s, was one of the unanswered questions in the Geneva negotiations about a Protocol for the BWC.

The ambiguity and generality generated by this phrasing has, however, great benefit in making the BWC continually relevant even through the far-reaching and fundamental changes that have occurred in the life sciences since the Convention was drafted and adopted. There are no lists of agents or “dangerous” pathogens – meaning any new diseases generated by Nature or by man are automatically included in the prohibited category if they are adapted or adopted as weapons. There is no categorization of delivery means – so even the home-made aerosols of the terrorist qualify as prohibited weapons.

There has been considerable hand-wringing by some diplomats and even scientists about the imprecision of the BWC. Such was one of the motivations for attempting to negotiate a protocol to the BWC during the 1990s, on the grounds that doing so would make the Convention more “objective” and more “enforceable.” The course of the negotiations demonstrated, among other things, the practical impossibility of setting down any set of “objective criteria”

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that could endure for even long enough to achieve a useful number of ratifications to any document, and what would have been a constant need for amendment and updating of such criteria.

A separate difficulty about making the world safe from biological weapons lies in the alteration over the last twenty-five years in important elements of international relations. This is the increasing sophistication of terrorist organizations and activities (NOTE: In this discussion I am not setting down a particular definition of either terrorism or what constitutes a terrorist organization. For the purposes of this analysis it will include any organization that claims the right to conduct lethal violence in support of its objectives, but either refuses to accept the responsibilities of sovereignty, and/or has failed to achieve undisputed recognition of its sovereign status.) Twenty-five years ago terrorism was a concern to most states. But the scope of terrorism then was largely confined to either well-defined groups operating within at least generally defined geographic bounds or small-scale and infrequent airliner hijackings or individual bombings. The idea of terrorist acquisition and use of WMD was either in the most secret of government contingency planning cells or in works of fiction. That meant dealing with BW was a matter of ferreting out clandestine national programmes designed to complement military operations and expanding the number of recognized states who were parties to the BWC.

Today the issue is changed fundamentally. On the positive side, both the publicity associated with the BWC and counter-terror writings have emphasized repeatedly the immorality of the concept of using disease as a weapon. While there is a certain altruism in such pronouncements, there is also at least a grain of persuasiveness, especially when one considers the uncontrollability of most BW, both in terms of area of application and target population. The result, for nation-states, is interesting. Examination of the posturing and rhetoric over the last decade of conflicts, both physical and verbal, between states – and including even those generally included in the phrase “rogue states,” no matter who is using that term – while there is reference to the possibility of nuclear or chemical capabilities coming into play, there is a general absence of reference to any biological option, even in extreme situations. That leads me to posit that states have recognized that the deliberate use of BW, even in a survival mode, would likely excommunicate the user from the international community more rapidly and completely than any other option they could devise. And, in most cases, it would also be a clear violation of their accepted international obligations under the BWC. There is also the matter that the global abhorrence of such use would likely justify in the eyes of the entire international community almost any retaliation the target of such a BW attack could muster, to include employment of other WMD.

On the negative side, however, is the emergence into a much broader scope of action of the non-state actor. The number, nature, and amorality of terrorist activities have expanded in the last decade almost on a par with the changes in technology in the life sciences. The reach of terrorism is now global, rather than local. The motivation of terrorism is even more fanatically ideological, creating a class of martyrdom that transcends both moral stricture and previous security standards by glorifying self-immolation in ways that defy previous security measures.

The objective of terror has become more inchoate. It is still used to advance – or at least draw attention to – real or perceived political objectives. But it also has now become a means simply to inflict pain, sometimes just to demonstrate the ability of the punisher to do so. Frequently, terror is less to achieve (e.g. recognition) than to deny (e.g. normal economic intercourse). With BW, this means the perpetrator does not need to accomplish pandemic-scale impact.

In the October 2001 anthrax event in the US, there were a total of 22 people infected, of whom five died. But the disruptive effect, both in the cost of remedial activity (whose extent and intensity, admittedly, contributed to keeping the infection/casualty numbers low), the strain on national antibiotic inventories of ciprofloxacin, and the psychological impact of such an event actually happening in the United States capital, was well beyond any physical impact of the disease. So in terrorism, the psychology is even more crucial than the biology.

Although nations increasingly (if my hypothesis is correct) look elsewhere for national capabilities, BW attack is not, unfortunately, a diminishing threat. And when we include terrorism, the question of whether a terrorist can acquire an “effective” BW capability – where “effective” is defined in terms of terror objectives – is much broader than it used to be.

Can a terrorist get a BW capability? Under the terms I have just described, the answer is simply “yes.” Can we deter such an attack? That question deserves more discussion later in this article. Can we survive and continue to operate in the presence of such an attack? Given a number of ongoing programmes and the kind of technical barriers that emerge if a terrorist tries to create “the perfect storm” of an incident rather than something more attainable, almost certainly.

So what, then, is the prognosis for the BWC in an environment where the constituents of the regime, states (and non-failing states at that), are diminishing parts of the threat, and terrorists (or other non-state actors) are not parties to the regime?

Here again, the drafters of the Convention were wise. Article III prohibits transfer of BW capability “...to any recipient whatsoever...” and not just to another state. Article IV also makes its enforcement language universal when it obligates every state party to “...take any necessary measures to prohibit [BW capability] within the territory of such State [party], under its jurisdiction or under its control anywhere.”

This means, in simple language, that each BWC State Party has a positive obligation to ensure not only that the means for making BW is not transferred from it to anyone else, whether a state that is not a party or other entity that might use the equipment or pathogen for BW purposes. It also requires state parties to take positive domestic implementing measures to ensure that rogue elements or entities within its boundaries (or jurisdiction or control) do not create a BW capability or make BW. Those are powerful and unambiguous obligations.

The legal obligation of states can arguably be extended even further by UNSC Resolution 1540. That requires domestic criminal legislation against WMD, which certainly includes BW. It also, by virtue of being a UNSC Resolution, applies to all states that are members of the United Nations, even those not party to the BWC. Although it is not a part of the resolution, the nature of the prohibition could easily be inferred from the extent of the obligation under the BWC.

While such a resolution, or even the legally binding nature of the BWC, does not necessarily imply each state will immediately (or even eventually) construct effective domestic laws and structures to implement the requirements, it certainly does raise an obligation it is proper to inquire about through diplomatic discourse.

Does this kind of obligation on states address at all the questions surrounding non-state actors? Largely, it should, even if it does not do so in practical application. One of the things that makes a non-state actor a non-state actor is the absence of territory to control and have sovereign jurisdiction over. But if that is the case, the physical territory from which the non-state actor operates is in (or at least arguably is under the jurisdiction or control of) a state. Under the obligations cited above, that state then has the obligation to ensure the non-state actor does not acquire BW capability through any means whatever. Like criminal law, the existence of regulation – even with severe penalties attached – does not guarantee adherence to those regulations. What it does do, however, is to complicate acquisition by forcing it to less reliable and more expensive channels, and at some point along the supply chain interfaces with an entity that does face disruptive penalties if it is discovered engaged in the supply of illegal capability to the terrorist. That is, after all, the objective of nonproliferation programmes: not to change human nature, but to make successful evasion of law more difficult, more expensive, and with real penalties if caught.

Many of the parties to the BWC have acknowledged (even if, in some instances grudgingly) the validity of the logic deriving domestic implementing obligations out of the Convention language, but have argued that they simply lack the national resource capability to put such an extensive and technically sophisticated enforcement framework in place. It is a valid observation that competent enforcement of biological restrictions such as are required in the inherently dual-purpose environment of disease and BW are both expensive and, in some aspects, counter-cultural to the life sciences. (When discussing potential research reporting and accountability provisions in the draft BWC Protocol during the negotiation period with academics around the United States, I frequently was greeted with the unqualified statement that biological researchers worked for “good,” and therefore there was no reason to require any oversight or reporting of their research, and to do so would violate academic freedom as well as potential proprietary rights. The idea that some of those same advances could be used by others to create more sophisticated and countermeasure-resistant pathogens as weapons simply did not compute in the cultural tradition of those researchers.)

However, the BWC has, over the past eight years, developed a working methodology designed to address precisely some of these difficulties. In July 2001 the United States announced it would not participate in, or agree to further work on, negotiations for a Protocol to the BWC. There was considerable negative international reaction to this stance, since it was perceived as simply an element of an overall US government policy of abandoning multilateral international activity and especially negotiations. (This is, in truth, an inaccurate and unfair characterization of the United States position on this particular situation, but that is not the object of this article.) At least in part as an attempt to dampen this international reaction, the United States advanced in August

a set of proposals to consider as activities under the auspices of the BWC that could achieve positive progress in meeting the changing BW threat. A number of these were adopted as a work programme for the BWC by the Review Conference in November of 2002.

Perhaps surprisingly to a number of the more skeptical observers, these proposals, along with others developed cooperatively in the ensuing years, have proven constructive and well-received by BWC States Parties, including a number of developing states. They work on two principles. First, the BWC itself provides an “umbrella” forum for all parties to gather to exchange views on the values from, and requirements to implement, various proposals (e.g. pathogen security) that can create more secure and stable environments where biological activity, including both research and production, can take place with less chance any capability could be diverted to or stolen by terrorist-aligned interests. Second, the discussion provides a forum where “states in a position to do so” (a classic diplomatese phrase meaning, in effect, “states with the financial and technical resources capable of providing assistance and the political will to share those resources”) can offer assistance to other states on a private, bilateral basis, to improve capabilities in the recipient state.

So there is real progress, although uneven and not universal, in such things as criminalizing BW domestically, setting up standards for security of dangerous pathogens, getting more complete information domestically on research of potentially dual-use consequences, and establishing codes of ethics for bioworkers. None of this, except for domestic criminal legislation, has the full force of law. (There is also a proposal to criminalize BW internationally, intended to obligate states either to adjudicate or else to extradite violators, although it is not clear what additional impetus that would generate, if the general abhorrence of BW is as widespread as I argued earlier.) However, all of these subjects display the inherent ambiguity of biology: trying to solve the problems of natural existence, including disease, inevitably brings one in contact with potential BW capability.

And, given the changed nature and reduced scope of a potentially successful terrorist move, where the term “weapon of mass disruption” can be equally effective as “...mass destruction,” these kind of less formal and less standardized approaches may well offer the best way available to develop the kind of attitudinal shift and pervasiveness needed to create an enduring barrier against terrorist (or even government) subversion or misdirection. They tend to get little notice because they are not structured, they do not consume large amounts of resources, and they do not offer immediate solutions or even progress charts. Nonetheless, they offer constructive progress to every nation that is willing to exert even limited effort to secure itself from bioterror.

If the world wants to devote more resources to the problem, the most promising avenue would appear to be improving public health, both on a national and cooperative global basis. Efforts in this dimension have multiple payoffs. It would directly mitigate the consequences of a biological attack, no matter who the perpetrator. In addition, it may be one of the very few levers to deter terrorist attack, thus potentially preventing the most likely source of BW.

A terrorist has no targets of value to hold at risk in traditional deterrence analysis. By definition, massive retaliatory moves,

even if targets can be identified, is not deterrence, it is reaction to an already-accomplished attack. So the question becomes, how does one try to dissuade a terrorist from launching an attack in the first place? The only key to analysis here that I can find is to examine terrorist objectives from their perspective and then figure out how to prevent the achievement of those objectives.

Biological attack already poses some complications for a terrorist. There are only a few nihilist terrorist groups in the world who are perfectly content to create chaos and disruption just for the sake of damaging society, and don't care who gets credit for it. But most terrorists have an agenda where damage and attacks are not ends in themselves but means to a more political end.

This implies taking credit for an attack, so that the world will recognize the source and the objectives that source desires, in case there is any desire to advance those objectives in order to diminish the chances of further attack. (Or even for the terrorist just to be able to brag they were good enough to get away with this one, to prove how smart/able they are.)

A biological attack cannot be forecast without seriously endangering its effectiveness. (Note that the 9/11 terrorists did not presage their attacks. Also, one of the elements of the October 2001 anthrax event in the US that appears to separate it from a terrorist attack is the warning included in the powder-filled envelopes saying the handler had just been exposed to anthrax. This certainly focused the analysis quickly and allowed countermeasures to be applied with some confidence much earlier than otherwise might have been the case.)

Conversely, it is problematic for a terrorist to "come up on the net" some days or weeks after a debilitating outbreak of disease and claim credit for having started it. There would be a tendency simply to attribute the outbreak to Nature, and then discredit the terrorist organization as simply trying to "piggy back" on the natural event to claim undue credit for the situation. (This is one reason I believe any terrorist biological attack will employ traditional agents rather than new "boutique" pathogens – if we suddenly have an outbreak of a new pathogen, we are more likely to assume this is a natural mutation than a man-made one.)

So there are some complications about how to achieve effectiveness and still be able to "claim credit" for the event. There are also a number of costs to the terrorist organization for any attack, whether it be the difficulty in recruiting competent personnel to produce the pathogen, the engineering obstacles to ensuring it is viable both for dissemination and for penetrating natural defenses, achieving the right location and timing for release, or other logistic and operational requirements. All of these elements suggest that a biological attack would be expensive to the perpetrating organization, require extensive planning and preparation, and potentially expend scarce – perhaps unique – resources. So it needs to achieve significant effects in order to command the resource expenditure to make it happen.

Consider all those components of terrorist planning if they also have to contend with the prospect the attack will simply

generate a quick and competent disease control response – having been detected and diagnosed promptly because of good health practices – and the impact is both transient and negligible. This would posit a significant advance in global health operations and a terrorist attack that is relatively limited in scope, size, and lethality. The latter points I believe are realistic, and the former, in my view, should be a priority objective of both states and associated international organizations. This would be the environment most likely to cause the terrorist to opt for some other approach to disrupting society. Even without targets of value to hold at risk, it has a positive deterrent effect on the prospects for a terrorist biological attack.

If the terrorist attack never materializes, either because such preparations deterred it or (less likely) because the terrorists were self-deterred because they perceived a biological attack as a way to undermine popular support for their cause, or for any other reason, then we would be left with an improved public health structure with no target for such capabilities but Nature. Given that Nature is not benign, that would not be a bad outcome, either.

In sum, the threat from biology has not diminished, even though the BWC has, through a significant work programme and adaptation to a new international model, made very positive progress toward improving capabilities for biosecurity and understanding of the inherently dual-nature of much biological work. In fact, more than for any other WMD, the attitude of the international community appears to abhor the very concept of disease as a weapon, and not just because it is so uncontrollable as to be a less-than-perfect military option. But that simply turns the threat to the terror arena, where the world has to cope with a much smaller scale and a much lesser sophistication as still viable for terrorist purposes. Even here, both the BWC and other national and international efforts are addressing the problem, even though there are still "miles to go" before we can all sleep safely and securely. In this cooperative international effort, it is crucial to flip the adage about BW being disease deliberately manipulated on its head, and recognize that substantive advance in handling the rampant global need for natural disease control and public health will also have the security benefit of diminishing the potential effect of a deliberate biological attack to the point where it may actually deter an otherwise determined and capable terrorist from selecting that option.

Ambassador Mahley is currently serving as Special Negotiator for Nonproliferation, on an as-needed basis. Before his retirement in April 2008, he was serving in the US State Department as Deputy Assistant Secretary for Threat Reduction, Export Controls, and Negotiations, his responsibilities including chemical and biological weapons threat reduction. His article The OPCW: Reflecting on the Model appeared in the July 2009 issue of this Bulletin.

The Biological Weapons Convention Meeting of Experts August 2009

As reported in *Bulletin* 74 (December 2006), the Sixth Review Conference of the Biological and Toxin Weapons Convention (BWC) held in Geneva from Monday 20 November to Friday 8 December 2006 agreed an Intersessional Programme for 2007-2010. This required one topic to be considered in 2009 when the mandate is for the one-week Meeting of States Parties prepared for by a one-week Meeting of Experts to discuss, and promote common understanding and effective action on:

(v) *With a view to enhancing international cooperation, assistance and exchange in biological sciences and technology for peaceful purposes, promoting capacity building in the fields of disease surveillance, detection, diagnosis, and containment of infectious diseases: (1) for States Parties in need of assistance, identifying requirements and requests for capacity enhancement; and (2) from States Parties in a position to do so, and international organizations, opportunities for providing assistance related to these fields.*

It was also agreed at the Sixth Review Conference that the Meetings in 2009 should be chaired by the Western Group and as reported in *Bulletin* 81 (December 2008) it was announced at the Meeting of States Parties in December 2008 that Ambassador Marius Grinius of Canada would be the Chairman for the Meeting of Experts on 24 to 28 August 2009 and for the Meeting of States Parties on 7 to 11 December 2009.

Meeting of Experts, 24 to 28 August 2009: Opening Plenary Session

The Meeting of Experts began on Monday 24 August 2009 in a plenary session with Ambassador Marius Grinius in the Chair. He welcomed all those present before turning to procedural matters. In regard to the adoption of the Agenda, he noted that BWC/MSP/2009/MX/1 (all official papers are available at <http://www.opbw.org> and at <http://www.unog.ch/bwc>) had been circulated in all languages. This was adopted. The programme of work (BWC/MSP/2009/MX/2) had likewise been circulated. The Chairman said that he envisaged open and closed sessions – with closed sessions for representatives of States Parties and Signatory States only. He suggested that whether a session should be open or closed should be adjusted as necessary depending on the content of the session and the availability of experts. He sought to make good use of open sessions but would consult with States Parties on the status of each session. In regard to the programme of work he said that he had had a last-minute consultation with one State Party which led to the proposal to add an additional working session to address opportunities for international cooperation after working session 3. The orally amended programme of work was adopted and was subse-

quently issued as BWC/MSP/2009/MX/2/Rev. 1.

The Chairman noted that the Implementation Support Unit (ISU) had prepared five background papers (BWC/MSP/2009/MX/INF.1, INF.2, INF.3, INF.4 and INF.5) and said that these are to provide background information on current circumstances relating to the topic being considered, so that the Meeting can concentrate its discussion not on what the situation is now, but rather on what States Parties might do.

MX/INF.1 is a 16-page document entitled *Recent Developments in Intergovernmental Organizations Relevant to Disease Surveillance, Detection, Diagnosis and Containment*, summarizing recent key developments by intergovernmental organizations, and placing particular focus on efforts to build capacity in these fields.

MX/INF.2 is a 6-page document entitled *Recent International, Regional and Non-Governmental Developments Relevant to Disease Surveillance, Detection, Diagnosis and Containment*, summarizing recent key developments by international bodies and regional initiatives in these fields, and again placing particular focus on capacity-building efforts.

MX/INF.3 is a 5-page document entitled *Previous Agreements and Understandings under the Convention Relevant to Capacity Building in the Fields of Disease Surveillance, Detection, Diagnosis and Containment* which collects texts drawn from the Convention itself, the Final Declaration of the Sixth Review Conference in 2006, and the reports of the Meetings of States Parties in 2004 and 2008.

MX/INF.4 is a 6-page document entitled *Provision of Assistance and Capacity Building in Other International Settings* which summarizes a selection of assistance and capacity-building activities undertaken in other international settings which may be relevant as examples or models for capacity building in the fields of disease surveillance, detection, diagnosis and containment. The paper takes examples of assistance *provided* by formal organizations, and assistance that is *brokered or coordinated* by organizations or networks. Where appropriate, the examples in each category are further divided into four types of assistance: needs assessment; training and education; technical guidance and cooperation; and building networks. The organizations included are the IAEA (International Atomic Energy Agency), the OPCW (Organisation for the Prohibition of Chemical Weapons), the IMO (International Maritime Organisation), the CBD (Convention on Biological Diversity) Clearing House Mechanism, and the Security Council Committee established pursuant to SCR 1540.

MX/INF.5 is an 8-page document entitled *Provisional Contact Details for Organisations Building Capacity in the Fields of Disease Surveillance, Detection, Diagnosis, and Containment* which provides the contact details for organisations that build capacity relevant to the work of the BWC in 2009. It is designed to complement the other background papers and provide a quick reference guide for obtaining assistance to strengthen arrangements in the fields

of disease surveillance, detection, diagnosis, and containment of infectious diseases.

The Chairman noted that all Working Papers submitted would be reproduced in the language of submission only and would be made available on the website www.unog.ch/bwc as soon as possible.

He then moved on to consider the Rules of Procedure, proposing that, as at previous annual meetings, the present meetings should operate under the Rules of Procedure of the Sixth Review Conference applied *mutatis mutandis*. However, he pointed out that formal accreditation would not be required for the annual meetings; registration would be sufficient. These Rules of Procedure were agreed.

It was agreed that the following four Signatory States should participate in the Meeting of Experts: Haiti, Myanmar, the Syrian Arab Republic and the United Republic of Tanzania. In addition, it was agreed that three States neither Party nor Signatory should participate as an observer: Angola, Cameroon and Israel. Seven intergovernmental organizations also participated as observers; The European Commission (EC), the European Centre for Disease Prevention and Control (ECDC), the Food and Agriculture Organization of the United Nations (FAO), the International Committee of the Red Cross (ICRC), the International Science and Technology Center (ISTC), the World Health Organization (WHO) and the World Organisation for Animal Health (OIE). In addition, at the invitation of the Chairman, in recognition of the special nature of the topics under consideration at this Meeting and without creating a precedent, ten scientific, professional, academic and industry bodies and one independent expert participated in informal exchanges in the open sessions as guests of the Meeting of Experts: Amyris Biotechnologies, the Biosafety and Biosecurity International Conference Series, the European Biosafety Association, HealthMap, the International Council for Life Sciences, the International Security and Biopolicy Institute, the International Vaccine Institute, the National Center for Security and Crisis Management (Jordan), the NTI Global Health Security Initiative, ProMED-mail, and Ms. Anupa Gupte. This was a similar arrangement to that which had applied at the Meeting of Experts in 2008.

It was also agreed that, as at previous meetings, this meeting would be suspended on Monday 24 August at 16.30 and resume in informal session with the Chairman remaining in the Chair to hear statements from a number of NGOs. Nine NGOs made statements and a further seven attended the meeting bringing the total to 16 NGOs.

The Chairman concluded the procedural matters by noting that there had been positive results from the sponsorship of experts, as this had enabled some 20 experts from nine States Parties to be present. He expressed his gratitude to the United States, the United Kingdom and Canada for providing such sponsorship. He asked any State Party that wished to make a statement or presentation during the Meeting of Experts to contact the ISU. Because of time constraints, the Chairman asked that any statements be limited to 5 minutes and any presentations be limited to 15 minutes so as to allow some time for discussion.

The Chairman also said that two panel discussions were planned: the first, on Thursday morning, on integrating responses to human, animal and plant diseases and the second on Thursday afternoon on public-private partnerships as a

tool for dealing with disease. He said that these discussion panels would be modelled on those at the Meeting of States Parties in 2008.

Ninety-six States Parties to the Convention participated in the Meeting of Experts as follows: Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Belarus, Belgium, Bosnia and Herzegovina, Botswana, Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Burundi, Canada, Chile, China, Colombia, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Equatorial Guinea, Estonia, Finland, France, Georgia, Germany, Ghana, Greece, Guatemala, Holy See, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Italy, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Lebanon, Libyan Arab Jamahiriya, Lithuania, Malaysia, Mexico, Moldova, Morocco, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Senegal, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Swaziland, Sweden, Switzerland, Tajikistan, Thailand, Tunisia, Turkey, Uganda, Ukraine, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Venezuela (Bolivarian Republic of), Yemen and Zambia. This was same number of States Parties as had participated in the Meeting of Experts in August 2008. Nine States Parties: Belarus, Bosnia and Herzegovina, Burkina Faso, Burundi, Equatorial Guinea, Estonia, Lebanon, Uganda and the United Arab Emirates participated in MX 2009 whilst nine States Parties: Benin, Costa Rica, Ecuador, Honduras, Malta, Oman, Sudan, the former Yugoslav Republic of Macedonia and Viet Nam who had participated in MX 2008 did not in MX 2009.

There were just over 500 participants at the Meeting of Experts of which almost 420 came from States Parties including over 205 participants from capitals. This compared very well with the participation at the Meeting of Experts in 2008 when there were just over 500 participants of which over 420 came from States Parties including over 220 participants from capitals.

The Chairman then made his introductory remarks saying that his aim was *to continue the successful pattern established by previous meetings and ensure that we make best use of existing precedents and current working practices. The intersessional process has delivered good, practical results in a constructive atmosphere of collaboration and common purpose, and it is in the interests of all States Parties that we continue in this spirit. So there will be no changes or surprises this year: all our work will be done in accordance with our mandate, and our decisions will be taken by consensus.* He said that *The report of the Meeting of Experts will follow the format and pattern of previous years.* He went on to point out that *The meetings of the intersessional process have a reputation for being non-political and focused on concrete proposals rather than abstract debate.* He then noted that *Our topic this year reaches to the heart of one of the fundamental aims of the BWC: ensuring that the peaceful applications of biological science and technology can safely and securely reach their full potential, and that developments in these fields are used only for the benefit*

of humanity. Building capacity in disease surveillance, detection, diagnosis and containment is in the interests of all States Parties: it strengthens the Convention both by enhancing international cooperation, assistance and exchange for peaceful purposes, and by improving capabilities for preventing and responding to illicit uses of biological agents and toxins. He urged that delegations should in particular consider:

- Problems or challenges in national disease surveillance or diagnostic capability;
- Specific projects planned or underway that are in need of funding or technical assistance;
- Assistance projects successfully undertaken which may be repeated elsewhere or provide a model for others;
- Resources, facilities, expertise, personnel, technical advice, etc, that may be made available to other States Parties to help build capacity.

The Chairman concluded by expressing the hope that our discussion this week will generate new initiatives, ones that might not otherwise have been developed, ensuring that our meeting tangibly enhances capacity and makes a genuine contribution to enhancing international cooperation, assistance and exchange in biological sciences and technology for peaceful purposes.

Cuba then spoke on behalf of the **NAM and Other States**, by recalling the XVth Summit of the Non Aligned Movement held in Sharm el Sheikh, Egypt, from 15 to 16 July 2009, at which the leaders of the Non-Aligned Movement agreed a Final Document which included two paragraphs relating to the Biological and Toxin Weapons Convention:

The Heads of State and Government of the States Parties to the Biological and Toxin Weapons Convention (BTWC) reaffirmed that the possibility of any use of bacteriological (biological) agents and toxins as weapons should be completely excluded, and the conviction that such use would be repugnant to the conscience of humankind. They recognised the particular importance of strengthening the Convention through multilateral negotiations for a legally binding Protocol and universal adherence to the Convention. They reiterated their call to promote international cooperation for peaceful purposes, including scientific-technical exchange. They underlined the importance to maintain close coordination among the NAM States Parties to the Convention and highlighted that the Convention on Biological and Toxin Weapons forms a whole and that, although it is possible to consider certain aspects separately, it is critical to deal with all of the issues interrelated to this Convention in a balanced and comprehensive manner.

The Heads of State and Government of the States Parties to the Biological and Toxin Weapons Convention stressed the importance of the active participation by NAM States Parties to the BTWC in this year's Experts and Annual Meeting in the framework of the Convention, in August and December 2009, respectively, on enhancing international cooperation, assistance and exchange in biological sciences and technology for peaceful purposes, promoting capacity building in the fields of disease surveillance, detection, diagnosis, and containment of infectious diseases, which are items of utmost interest not only to the NAM States Parties to the BTWC but also to

all developing countries. They further encouraged the BTWC States Parties to provide information, as set forth in paragraph 54 of the Final Document of the Sixth BTWC Review Conference, on how Article X of the BTWC on the issue of international assistance and cooperation is being implemented.

The statement went on to note that *The Biological Weapons Convention is an indisputable achievement of humankind. However, it lacks, inter alia, a verification mechanism. This is a pending issue, interrupted in 2001, which we have to re-evaluate. The strengthening of the Biological Weapons Convention cannot exclude the verification of the complete elimination of biological and toxin weapons as was highlighted by the NAM leaders in Sharm el Sheikh. It then went on to make the following remarks in regard to Article X of the Convention:*

The BWC can neither disregard one of the characteristics of its membership: the differences between its States Parties regarding the level of development and their national capabilities and resources. Although one of the main purposes of the implementation of Article X of the Convention is precisely to narrow these gaps, the BWC lacks an adequate mechanism for effective implementation of Article X.

Therefore our Group is presenting a Working Paper [WP.24] in this meeting on the establishment of such a mechanism, whose main elements are the following:

- *The mechanism should be open to participation of all States Parties to the Convention;*
- *Overcome the obstacles hampering the full implementation of Article X of the Convention;*
- *Mobilize the necessary resources, including financial resources, to facilitate the widest possible exchange of equipment, material and scientific and technological information regarding the use of bacteriological (biological) and toxin agents for peaceful purposes, in particular from developed to developing States Parties.*
- *Facilitate the development of human resources in developing States Parties in the implementation of the Convention, taking into account the special situation faced by them;*
- *Coordinate cooperation with other relevant international and regional organizations for the financial and technological support of activities for the use of bacteriological (biological) and toxin agents for peaceful purposes;*
- *Establish sponsorship programme in the BWC to support participation of developing States Parties in the meetings and other activities of the Convention. This sponsorship programme could also be utilized, depending upon the availability of resources, to enhance participation of non States Parties in order to promote the goal of universalization of the Convention.*

The statement went on to say that *The Group of NAM and other States parties is ready to initiate discussion on this mechanism as part of negotiations to strengthen the Convention.*

Sweden then spoke on behalf of the **European Union**, noting that the Candidate Countries Turkey, Croatia and the former Yugoslav Republic of Macedonia, the Countries of the

Stabilisation and Association Process and potential candidates Bosnia and Herzegovina, Montenegro, Serbia, and the EFTA country Iceland, member of the European Economic Area, as well as Ukraine, Moldova, Armenia, Azerbaijan and Georgia align themselves with this declaration. The statement said that *The European Union supports the BTWC as a key component of the international non-proliferation and disarmament framework. The BTWC is the cornerstone of international efforts to prevent biological agents from ever being developed and used as weapons. We actively promote the universalisation and national implementation of and full compliance with the Treaty. The European Union also remains committed to working with a long term view to develop measures to verify compliance with the BTWC.*

Sweden then pointed out that *Lately the bio-risk spectrum has often been described in international fora as ranging from natural disease outbreaks via accidents and negligence to vandalism/sabotage to the deliberate use of biological weapons. It was highlighted recently at the workshop in Oslo 18-19 June this year, "The Biological Weapons Convention Supporting Global Health: Reducing Biological Risk by Building Capacity in Health Security" that it is more appropriate than ever to focus on international cooperation and support to strengthen national structures and capabilities for preventing, detecting and treatment of infectious human, animal and plant diseases. It is therefore very timely that we gather here to discuss the themes for this year's BTWC Meeting of Experts. The statement went on to note that Diseases and pests do not respect territorial boundaries. Therefore, maximum cooperation and assistance in areas concerning disease surveillance, detection, diagnosis, and containment of infectious disease would benefit global health and ultimately the entire BTWC norm. Therefore, it is of extreme importance to enhance international cooperation, assistance and exchange in biological sciences including biotechnology for peaceful purposes.*

Finally, Sweden outlined the basis for EU action in this area and noted the Joint Actions being implemented relevant to the BTWC which show our political and financial commitment:

- *In April 2008, the EU Council adopted a Joint Action in support of WHO activities in the area of bio-safety and bio-security. There will be one in-country project and different other workshops and assistance activities.*
- *As a follow up to our first Joint Action supporting the BTWC, in November 2008, the EU Council adopted a second Joint Action in Support of the BTWC, with projects and activities related to the universalisation of the Convention, national implementation, promotion of CBMs and support to the BTWC inter-sessional process.*

Following these two group statements, there were then a number of statements made by individual States Parties.

Turkey then spoke, saying that *On the road to the Seventh Review Conference in 2011, we have already addressed very important topics in 2007 and 2008. It was then noted that This year's topic is also key to full implementation of the BWC regime and the statement went on to say that When the inter-sessional program is hopefully completed at the end of 2010, we shall have accomplished our goal to*

strengthen and advance the implementation of the Convention, on the eve of the Review Conference of 2011. Turkey then outlined its contribution to a later session during the week and went on to add Today, I wish to take this opportunity to briefly reiterate the following:

We share the broad understanding within the BWC community that further efforts have to be devoted to strengthening and improving the implementation of the Convention.

States Parties may wish to make use of the 2007-2010 inter-sessional period to consider new ideas in the next Review Conference for an implementation mechanism to enhance the new effectiveness of the Convention.

The Russian Federation then spoke, saying *I would like to stress once again that Russia complies with all provisions of the BWC. The statement went on to note that Considering the unfortunate epidemiological situation in the world, the issues on our agenda today are as relevant as ever. Separate states can no longer adequately prevent the spread of infectious diseases, even if they possess the capabilities to diagnose and control infectious diseases. We believe it important to develop and strengthen the Convention's potential for international cooperation in the peaceful uses of advances in bioscience. The statement then observed that We believe that successful implementation of Article X will help to increase confidence, promote universality of the Convention, as well as development of national, regional and global capabilities to prevent and control the infectious diseases among humans, animals and plants. We are of the view that scientific and technological cooperation, as well as implementation of joint projects will help to reduce the risk of using biological materials, equipment and technologies for purposes prohibited by the Convention.*

The statement then went on to say that *As for the exchange of information on national experiences concerning the prevention, diagnosis and control of dangerous infectious diseases, we view it as an important tool that builds confidence among States Parties in relation to the implementation of the BWC. We believe that such exchange complements the annual national CBMs on biological facilities and activities relevant to the BWC. It then added that We attach great importance to declarations in the framework of CBMs, especially taking into account that, without an effective mechanism to verify the Convention in place, CBMs represent the only instrument allowing to assess how states comply with their obligations under the BWC.*

Whilst Russia has submitted its CBM for 2008, the statement observed that *Unfortunately, participation in the CBMs among States Parties is far from being universal. We call upon those states that do not submit their declarations to review their attitude towards this mechanism. It adds that At the same time we welcome the efforts of some States Parties to the BWC aimed at making CBMs universal. Success achieved here may facilitate substantive discussions on the elaboration of an effective verification mechanism for this Convention. The Russian Federation remains committed to the establishment of such mechanism. The statement concluded by stressing the importance of the expansion of the Convention's membership to strengthening the regime and noting that in 2009 no state has acceded to the Convention.*

China then spoke, saying that *Traditional and non-traditional security threats are intertwined as the world entered into a new century. In today's world where globalization and biotechnology are developing more rapidly than ever, the non-traditional security threats such as pandemic disease and public health emergencies pose a threat to human health and social economic development and constitute a serious challenge to global security. Proper measures against pandemic disease and effective disease surveillance and control mechanisms are critical to public health and social stability. They are also of great significance to the protection against and combating of bioterrorism, and to the enhancement of global bio-security. The subject of our meeting is therefore closely related to the objectives of the Convention.* The statement went on to say that *China believes that the international cooperation needs to be further strengthened in the following areas: Firstly, epidemics information sharing. Continue to strengthen and improve the existing disease notification mechanisms. Information about any outbreak of acute infectious diseases should be shared in accordance with the current practice of relevant international organizations. Secondly, science and technology exchange and cooperation. States Parties that are better off are encouraged to share their knowledge and experience with other States Parties through exchange of bacteria (virus) samples, provision of vaccines and equipment, and joint development of research project. Thirdly, personnel exchange. States Parties are encouraged to promote contact and experience sharing between professional institutions. Fourthly, global outreach. Efforts are to be made to strengthen exchange and cooperation between States Parties and international organizations such as the World Health Organization (WHO), World Organization for Animal Health (OIE), Food and Agriculture Organization of the UN (FAO), so as to make full use of their available resources and services.* The statement concluded by noting that China has submitted two Working Papers (WP.19 & WP.20).

Indonesia then spoke, saying that *The threat of use of biological weapons as well as the spread of infectious diseases spreading beyond boundaries is common challenge to all nations. The spread of infectious diseases in the recent years also prove that no country is immune from this threat, and no single country is able overcome this problem by itself. Therefore, Indonesia is of the view that the international cooperation is the most effective way to ensure adequate response to these challenges.* The statement went on to recognize the differing capabilities of different States Parties and to point out that *The enhancement of capacity, especially for developing countries is imperative if we are committed to resolve these threats globally.* It also noted that *as one of the main pillars of the convention, international cooperation provides incentive for non state parties to join the Convention and support our universalization efforts.*

The **United States** then spoke saying *The Obama Administration strongly supports the work taking place under the BWC Work Program.* The US representative (Dr. Scott Dowell of CDC) then said *I have been asked to make*

this address to emphasis this support. He went on to say *I commend the foresight of BWC States Parties in tackling the global need for increased surveillance and the critically important effort towards capacity-building.* The statement then noted that *the U.S. has a strong interest in promoting the safe, secure and sustainable expansion of national disease surveillance capabilities, the sharing of pertinent outbreak information consistent with the revised International Health Regulations, and the prevention, containment and mitigation of the consequences of human and animal diseases for both human health and international security. We believe it is important to mobilize and integrate international security and health resources to build capacity for disease surveillance, detection, diagnosis and response at the national, regional and international levels.* The statement then outlined the US contributions to be made to the Meeting of Experts and noted that *We believe that the many efforts underway support our collective Article Ten goals.* It went on to say that *We see this meeting as a rare opportunity to update each other on national efforts to counter biological threats – whether deliberate or natural – and as importantly, to discuss ways to ensure we have the collective capacity to safely and securely handle disease threats.*

Saudi Arabia then spoke, emphasizing the importance of the Convention, urging all non-States Parties to accede, and announcing Saudi Arabia's intention to hold a workshop in Riyadh in October 2009, in conjunction with the ISU and with VERTIC to promote greater awareness of the Convention.

Algeria then spoke, saying that *our meeting today will be called upon to look at the subject of strengthening cooperation, assistance and international exchanges under Article X of the Convention on the prohibition of biological weapons.* The statement went on to say that *This Convention is a cornerstone in the system of international security. It demands that States Parties take the necessary measures to prevent the use of biology for harmful purposes as well as protecting and encouraging quite justifiably the development of peaceful applications of biological science. These applications are vital for the implementation of development programmes, particularly in the area of public health.* It then recalled the working paper prepared by the NAM on implementation of Article X and noted that *These meetings today are, from this viewpoint, a further opportunity to consider the status of the implementation of one of the pillars of the Convention, that is, Article X. It is particularly relevant to do this against the backdrop of the holding of the Review Conference planned for 2011. This is also a good opportunity to recall that the scope of the Convention continues limited because it is not endowed with a verification mechanism and to stress once again resumption of multilateral negotiations on a legally binding instrument in this area.*

Senegal then spoke, summarizing the situation in regard to the BWC in Senegal, and going on to say that *The States Parties to BWC have different levels of scientific and technological capacity. Given the situation, it is important to work to strengthen the capacities of developing countries in the area of epidemiological surveillance*

*through promoting international cooperation, including South-South cooperation. The statement then said that Senegal fully endorsed the proposal put forward by Cuba on behalf of the NAM, and noted that *By ratifying the BWC, the States Parties to this instrument, including Senegal, have undertaken the commitment under Article X of promoting exchanges for peaceful purposes. This aspect of the Convention, that is, scientific cooperation and transfer of technology, is a clear way of stimulating universalization of the Convention and its effective implementation.**

The Philippines then spoke, saying that *This year's theme, which highlights Article X of the BTWC and international cooperation in biological science, disease surveillance, detection, diagnosis and containment, is indeed a timely and vital one.* It went on to support the statement and document issued by Cuba on behalf of the NAM and urged the BTWC Community to develop an effective mechanism for the implementation of Article X. The statement continued by outlining the steps being taken by the Philippines in regard to the Convention as well as biosafety and biosecurity and biological threat reduction.

Nigeria then spoke saying that *Nigeria attaches particular importance to the implementation of Article X of the BWC, which provides for assistance and protection, technical cooperation to States Parties against biological weapons attacks. The implementation of this Article is important to ensure practical capacity building as well as transfer of material and equipment to deal with biological weapons incidents on a regional and sub-regional basis.* The statement then thanked the EU for its continuing assistance in this area of capacity building and went on to identify a number of areas in which Nigeria would welcome assistance.

Peru then spoke, saying that currently *Peru is working on a draft bill to implement the most relevant provisions of the Convention on Biological Weapons.* and thanking the EU and the ICRC for their support in this activity. The statement went on to note the dangers from non-State actors and to say that *It is therefore necessary to continue with bilateral, regional and international efforts to identify ways and means to reduce or avoid these threats through better cooperation on the scientific level and also technological transfer.*

Pakistan then spoke, saying that this year's theme is *important and urgent particularly in view of the increasing prevalence of some infectious diseases in the recent past. Communicable diseases and public health threats pose major challenges to humanity.* The statement went on to point out that *There are huge gaps in terms of national resources, both financial and technological, and capabilities. Therefore, it is important to bridge these gaps. The best and durable solution is to share resources, enhance capacities and assist each other in realizing this objective. We believe that implementation of Article X of the Convention is the right framework for cooperation and assistance in this regard.* The statement concluded by summarizing the steps being taken by Pakistan.

Republic of Korea then spoke, taking note of the previous intersessional meetings and saying *it is the sincere hope of my delegation that the planned intersessional work program will make a significant contribution to the success of the 7th Review Conference in 2011.* It then went on to outline two presentations to be made later in the week by the Republic of Korea.

India then spoke, saying that *India attaches the highest priority to the further strengthening of the BWC as it was the first disarmament treaty that eliminated an entire category of weapons of mass destruction. We believe that only a multilaterally agreed mechanism for verification of compliance can provide the assurance of observance of compliance obligations by States Parties and act as a deterrent against non compliance.* The statement went on to say *India believes that the promotional aspects of Article X are a crucial element in strengthening the BWC and in achieving universal adherence.* It added that *The BWC States Parties should facilitate the fullest possible exchange of equipment, materials and scientific and technological information for the uses of bacteriological (biological) and toxin weapons for peaceful purposes consistent with their obligation under the Convention. This would help developing countries to meet their development needs, including improving public health and in building a robust biotechnology industry. It would also promote universality of the Convention and would be instrumental in establishing linkages amongst States parties leading to a higher level of confidence in the Convention. The strengthened implementation of the provisions of Article III would ensure that the cooperation envisaged under Article X is not abused. Effective export controls are an essential component of international cooperation to ensure that disease causing organisms and pathogens do not fall into the hands of terrorists and are used only for peaceful purposes.*

Morocco then spoke, saying *The holding of this Meeting of Experts of States Parties at the BWC devoted to the implementation of Article X of the Convention comes at just the right time; in fact, it coincides with a period when the entire world has been compelled to combine efforts so as better to prepare to cope with one of the biggest pandemics of recent years, the virus A/H1N1.* It went on to add that *In this context, the relevance of Article X of the BWC is clearer than ever before. States Parties which have committed themselves under Article X of the Convention to facilitating the widest possible exchange of equipment, materials and scientific and technical information related to the use of bacteriological (biological) agents and toxins for peaceful purposes, are duty bound to implement this provision* The statement then noted that *International cooperation and exchange of information and technology for peaceful purposes are among the most important pillars of the Convention. However, this area does not have an appropriate mechanism yet for this purpose. In this framework, my delegation would appeal to States Parties to adopt and implement the recommendation of the Movement of Non-aligned Countries and other States Parties calling for the establishment of a mechanism for the full implementation of Article X.*

Norway then spoke, saying *The topic is closely related to Article X of the BWC. We all know that it has not been easy to address this important article in the past. There have been different perspectives on how to reconcile aspirations for the fullest possible cooperation in life sciences with legitimate non-proliferation concerns. At the same time, we all gain from enhanced international cooperation to combat diseases and limit biological risk.* The statement went on to describe the workshop held in Oslo on 18-19 June 2009, at which more than 70 representatives from over 25 countries discussed and shared experiences on practical steps to implement Article X. Although the workshop did not produce a negotiated outcome document, the conveners of the event made a number of observations, which are reflected in the working paper submitted by Indonesia and Norway. [WP.5].

Ukraine then spoke, saying *The themes of this year's meeting are very important. Among other they are aimed at providing assistance to the States Parties in need of cooperation not only to strengthen and increase the effectiveness of the BWC regime but also to diminish as much as possible most of the biothreats both intentional and not intentional – including those arising from revolutionizing biological technologies, which have to serve for peaceful purposes only.* The statement went on to outline steps being taken by Ukraine.

Chile then spoke, saying *Our country will always support any effort which is aimed at disarmament, non-proliferation and the prohibition of the manufacture and use of any weapon of mass destruction, including bacteriological (biological) and toxin weapons, and also we would like to express our total willingness to become involved in any multilateral initiatives aimed at ensuring the elimination of this type of weapon.* The statement went on to outline steps being taken by Chile including work on a bill to implement the Convention.

The morning session then finished. In the afternoon, further statements were made.

Iran then spoke, saying that *Iran attaches great importance to multilaterally negotiated instruments on Weapons of Mass Destruction including BWC which are essential for the maintenance of international and regional peace and security. We hope that a decision can be adopted in the Seventh BWC Review Conference in 2011 to let the negotiations be resumed on a legally binding instrument to comprehensively strengthen the Convention including in the area of international cooperation for peaceful purposes.* The statement went on to say *We have a very important issue on the agenda of this year's meetings, i.e. international cooperation which we strongly believe, due to the high importance of Article X as the main pillar of the BWC, the deliberation on this Article should regularly be on the agenda of the intersessional meetings.* It also noted that *the full and comprehensive implementation of Article X, on an equal and non-discriminatory basis should be underlined.* The statement continued: *It should be noted that the States Parties have a legal obligation to refrain from imposing restrictions or limitations for*

transfers of relevant equipment and technology that would hamper economic and technological development of States Parties or international cooperation for peaceful applications in the field of biotechnology. Therefore the States Parties should undertake to review their national regulations governing international exchanges and transfers in order to ensure its consistency with the objectives of the Convention and specifically the provisions of Article X. It went on to say *a mechanism should be established to deal with the issue of settlement of disputes of transfer denial. In this regard a standing committee could be established under the Convention to consider the cases of transfer denials.*

Kenya then spoke, saying *The topic of this year's meeting of experts is of great concern to us as it addresses capacity building in the areas of disease surveillance, detection, diagnosis and containment which continues to be a challenge not only to Kenya, but to many developing countries.* The statement continued by outlining steps being taken by Kenya to addressing perennial outbreaks of communicable disease, and concluded by listing identified gaps on which Kenya would welcome technical assistance.

Bangladesh then spoke, saying *We fully subscribe to the proposal submitted by NAM and other States Parties on the 'Establishment of a Mechanism for the Full Implementation of Article X of the Convention'. We hope that the constructive proposals set out in the document will contribute to further discussions on strengthening the implementation of the Convention, including in the area of fostering greater international cooperation in the use of biological and toxin agents for peaceful purposes.* The statement went on to outline steps being taken by Bangladesh and concluded by saying *A number of Least Developed Countries continue to remain on the list of non-States Parties. We should consider enhanced international cooperation to expedite their accession to the Convention. The ongoing Confidence Building Measures can serve as useful incentives to the process, and should be further strengthened. The ultimate objective of the Confidence Building Measures should be to achieve an effective verification regime. My delegation looks forward to significant developments in this regard during the lead up to and at the Seventh Review Conference in 2011. We hope that the renewed vigour and optimism that we have witnessed in our recent work on disarmament will also provide impetus for further negotiations on an enabling instrument for the full and verifiable implementation of the BWC.*

Yemen then spoke, outlining the steps taken by the Yemen and saying that a national committee is working actively to develop national legislation on the improvement of safety and security of biological materials. It went on to identify areas in which the Yemen would welcome assistance.

Mexico then spoke saying that Mexico would like to reaffirm our commitment to the full implementation of the Convention and, on this particular occasion, our commitment to the implementation of Article X of that instrument given the importance it has in terms of

exchanging equipment, material and scientific and technological information and so as to be in accordance with Article 89 of our Constitution which stipulates that international cooperation for development should be a leitmotiv for Mexico's foreign policy. The statement went on to outline the steps being taken by Mexico to combat the pandemic resulting from the new pandemic 'flu virus, A/H1N1.

This completed the opening plenary session. As there was some time available before the planned informal session for the statements by NGO's, the Chairman brought forward from Tuesday morning the first working session on *National disease surveillance arrangements* by inviting the United States, Sweden (on behalf of the EU), Turkey and the European Centre for Disease Prevention and Control (ECDC) to make their presentations. (These and later presentations and statements are available on the unog.ch/bwc website).

The meeting was then suspended and resumed with the Chairman remaining in the chair to hear statements from nine NGOs who spoke in the following order:

- a. **The University of Bradford.** Graham Pearson spoke saying consideration should be given to how best to implement the agreement at the Sixth Review Conference to provide information on the implementation of Article X to the UNDDA, and to whether this should be put forward as a new CBM to the Seventh Review Conference.
- b. **VERTIC (Verification Research, Training and Information Centre).** Scott Spence outlined the status of VERTIC's National Implementing Measures Project that is assisting States Parties in their implementation of the Convention including legislation, regulations and measures to strengthen biosafety and biosecurity.
- c. **Pax Christi International.** Trevor Griffiths urged effort on the health-related Millennium Development Goals. Pax Christi noted with regret that the number of States Parties making annual CBM submissions appears to be declining to about one-third of the States Parties and urged the other two-thirds to demonstrate their commitment to the Convention by submitting their annual CBMs.
- d. **Center for Biosecurity of the University of Pittsburgh Medical Center (UPMC).** Brooke Courtney offered recommendations for strengthening national and global biosurveillance capacity and effectiveness, emphasizing that response capabilities should drive the evolution of surveillance networks, that collaboration is critical and that such surveillance networks depend on qualified personnel.
- e. **The Center for Arms Control and Non-Proliferation/Scientists Working Group on Biological and Chemical Weapons.** Marie Chevrier outlined the achievement of ProMed Mail in regard to effective disease surveillance and also reported on a successful meeting in 2008 to promote international cooperation to ensure that all government programmes are in compliance with all aspects of the BWC.

- f. **BioWeapons Prevention Project (BWPP).** Kathryn McLaughlin described some of the activities carried out by BWPP to enhance international cooperation in the biological sciences, including conferences in Kenya and Malawi and two publications which would be distributed following the poster session on Thursday afternoon.
- g. **National Defence Medical College of Japan and Bradford University.** Masamichi Minehata noted that improving capabilities for disease surveillance, diagnosis and containment requires the building up of biotechnology facilities and the number of people with capacities in biotechnology. However, there is a very low level of awareness of biosecurity and dual-use issues among the life science community worldwide, and this deficiency needs to be addressed.
- h. **Stockholm International Peace Research Institute (SIPRI).** Peter Clevestig spoke about the enhancement of international cooperation for disease surveillance and response, noting that SIPRI had in June published a handbook on applied biosecurity for life sciences laboratories. He suggested that CBM 'D' on 'active promotion of contacts' might be modified to promote capacity building and improvement of the operation of life sciences laboratories.
- i. **Center for Defense, Law & Public Policy of the Texas Tech University School of Law.** Victoria Sutton described the Global Biosecurity Law Project aimed at providing the optimum regulatory balance. She also noted that achievement of international consensus on a Code of Ethics for Biosecurity would help to find agreed principles among the international community.

The Chairman thanked the NGOs for their valuable inputs and said that their succinct statements were appreciated. He then resumed the formal session and said that consideration of the first topic, *National disease surveillance arrangements*, would continue on Tuesday morning. He also announced that there would be a side event at 0900am in Room XXIII, at which there would be the official *Launch of the European Union Joint Action in Support of World Health Organisation Activities in the Area of Laboratory Biosafety and Biosecurity*.

In addition it should be noted that, as at the Sixth Review Conference and at the Meeting of Experts 2007 and 2008 and the Meeting of States Parties 2007 and 2008, Richard Guthrie in association with the BioWeapons Prevention Project provided daily reports on the Meeting of Experts that were made available in hard copy to the delegations as well as electronically. These reports are available at www.bwpp.org/reports.html.

Side Events

During the Meeting of Experts there were side events at lunchtime each day from Monday to Thursday as well as breakfast events at 0900am on Tuesday, Wednesday Thursday and Friday 25 August 2009.

The first lunchtime event on Monday 24 August was a launch by the EU of the *EU Joint Action in Support of the*

Biological Weapons Convention. Statements were made by Andreas Strub, Deputy to the Personal Representative of the High-Representative on Non-Proliferation of WMD, General Secretariat of the Council of the EU; Richard Lennane, Head, ISU; and Ambassador Marius Grinius of Canada. This was followed at 1430 by a BWC Implementation Support Unit event on *Speed Networking*.

On Tuesday 25 August the breakfast event was a launch by the EU of the *EU Joint Action in support of World Health Organisation Activities in the Area of Laboratory Bio-safety and Biosecurity*. Statements were made by Andreas Strub (EU Council General Secretariat); May Chu (WHO); and Ambassador Marius Grinius (Canada). Ambassador Magnus Hellgren (Sweden) was in the chair. The lunchtime event was a discussion on *Disease Surveillance Networks* organized by the International Council for Life Sciences, at which presentations were made by Tim Trevan of ICLS and Brooke Courtney of the Center for Biosecurity of the University of Pittsburgh Medical Center (UPMC).

On Wednesday 26 August, the breakfast event was organized by VERTIC so as to provide an opportunity for informal discussions with delegates regarding VERTIC's *National Implementing Measures* project. The lunchtime event hosted by the United States was a Panel Discussion on *National Experiences and Response to H1N1* with presentations given by Lalit Kant, Senior Deputy Director-General, Indian Council of Medical Research; Ethel Palacios Zavala, Ministry of Health, Mexico; and Andrea Olea, Head of the Surveillance Unit, Department of Epidemiology, Ministry of Health, Chile. José Fernández, US Department of Health and Human Services, was in the chair.

On Thursday 27 August, the breakfast event was a presentation by Anupa Gupte on *Biorisks and Ecohealth Implications for BWC Implementation: Tools for Governance*. The lunchtime event was a discussion on *Stockpiling and Delivery of Medical Countermeasures* organized by the International Security & Biopolicy Institute (ISBI) with presentations given by Al Shofe, Senior Vice-President of Emergent BioSolutions, Inc. (ISBI Chairman) on stockpiling issues associated with anthrax preparedness; Leslie Platt of Daylight Forensic, Inc. (ISBI Vice-President) on a proposal for global biopharmaceutical preparedness in the event of a pandemic catastrophe; and Barry Kellman (ISBI President), outlining an 8-Step strategy for global medical countermeasures stockpiling and delivery.

On Friday 28 August, the final side event was a breakfast event, which considered the *Political Implications of the Possible De Novo Synthesis of Smallpox*, organized by the International Security & Biopolicy Institute, with presentations given by Robert Drillen, Director of Research, INSERM, Strasbourg, on *Could Chemical Synthesis and Genetic Engineering of the Smallpox Virus Enable Recreation?*, and Barry Kellman (ISBI President) on *Chemical Synthesis of Smallpox*.

Tuesday 25 August 2009

The Meeting of Experts resumed on the morning of Tuesday 25 August 2009 with further presentations on *National Disease Surveillance Arrangements* by Bulgaria, India, Senegal, Chile, China, the United States, Pakistan, Italy, Algeria, Kenya, Australia, Russia, Nigeria, France and the

UK. The afternoon session moved on to the next topic of *International Disease Surveillance Arrangements*, when three presentations were delivered by the World Health Organization entitled *Biological Weapons Convention Supporting Health: Reducing Biological Risk by Building Capacity in Health Security; From Global to Local - WHO Global Alert and Response Mechanisms* and the *Laboratory Twinning Initiative*. This was followed by two presentations by the World Organisation for Animal Health (OIE) on *Good Governance for Early Detection and Rapid Response* and *Laboratory Twinning*. Finally the Food and Agriculture Organization made a presentation on *International Disease Surveillance Arrangements: PlantHealth*.

Wednesday 26 August 2009

The Meeting of Experts continued on the morning of Wednesday 26 August 2009. It was decided to combine consideration of the next two topics: *Opportunities for international cooperation and Specific capabilities and experiences in providing assistance for capacity-building; sources of assistance and mechanisms for promoting capacity-building*. Presentations were made in the following order: Canada & Mexico, Argentina, Georgia & United States, Canada, Japan, Germany, Republic of Korea (x2), China, United Kingdom, and the United States. Presentations continued in the afternoon by Canada (x2), Georgia & United Kingdom, India, France and Australia. Consideration then moved on to *Specific needs for capacity-building and challenges in dealing with disease* with presentations by Japan, Germany, Kyrgyzstan & Canada, Iran, Indonesia and France. Wednesday also saw a presentation at the end of the morning on the topic *The role of international, regional and non-governmental organizations*, which had been brought forward from the further discussion of this topic on Thursday, by a guest of the meeting, Barry Kellman of IBSI, who spoke on *Surveillance and Detection for Promoting Compliance with the Prohibition Against BW*.

Thursday 27 August 2009

Although a discussion panel had been planned for Thursday morning on *Integrating responses to human, animal and plant diseases*, it had been decided during Wednesday to drop this in order to return to the schedule set down in MX.2/ Rev.1, as this subject had received substantial coverage in presentations. It was also decided for the same reason to drop the discussion panel planned for Thursday afternoon on *Public-private partnerships as a tool for dealing with disease*. Thursday morning started with a continuation of the Wednesday afternoon topic *Specific needs for capacity-building and challenges in dealing with disease* with presentations by China, Senegal, United Kingdom, Germany, Pakistan, Philippines and Nigeria. Thursday morning then moved on to resume consideration of the topic *The role of international, regional and non-governmental organizations* with presentations by ProMED [the Programme for Monitoring Emerging Diseases], Health Map, the Global Health Security Initiative, Amyris Biotechnologies, the European Biosafety Association, the International Council of the Life Sciences, Biosafety & Biosecurity International

Conferences, and the International Vaccine Institute. This topic continued in the afternoon with presentations by the International Science and Technology Center, Anupa Gupte and the Robert Koch Institute, Berlin.

Following the afternoon session, there was a poster session when 27 posters were mounted on stands outside the main conference room. They were prepared by a number of States Parties, agencies, associations and NGOs on subjects relevant to this year's topic. There were posters from Canada (3), China (1), European Union (1), Indonesia (1), Italy (1), Japan (1), Kenya (1), Norway (1), Pakistan (1), Republic of Korea (1), Sweden (1), United Kingdom (3), United States (3), together with posters from the Grupo Americano (Canada, Mexico & US), Center for Biosecurity (UPMC), European Biological Safety Association, Global Health and Security Initiative (NTI), International Council for Life Sciences, National Defence Medical College, Japan & University of Bradford, UK, Research Group for Arms Control (Hamburg), and Texas Tech University. During the afternoon, the draft report of the Meeting (CRP.2) was circulated, as well as an initial draft (CRP.1) of the *Considerations, Lessons, Perspectives, Recommendations, Conclusions and Proposals Drawn From the Presentations, Statements, Working Papers and Interventions on the Topics Under Discussion at the Meeting*.

Friday 28 August 2009

On Friday morning, the meeting considered the report of the Meeting of Experts which had been circulated on Thursday afternoon as CRP.1 and its appendix, the compilation of the *Considerations, Lessons, Perspectives, Recommendations, Conclusions and Proposals Drawn From the Presentations, Statements, Working Papers and Interventions on the Topics Under Discussion at the Meeting* which had been circulated on Thursday afternoon as CRP.2 together with an addition containing material submitted up to 1900 on Thursday.

Before the report of the meeting was adopted, the Chairman gave a report on progress towards universalization in which he said that he was sorry not to be able to report any new accessions since the Meeting of States Parties last December. The number of States Parties remains at 163, with the Cook Islands being our newest member. But this is not for lack of trying: I am pleased to report that efforts on universality have been underway in various quarters over the past months, and it seems reasonable to expect that these efforts will result in further accessions, possibly by the end of the year. He went on to say that there had been a coordinated campaign to increase membership among the Pacific island states and that he had written to the foreign ministers of these states urging them to accede. In Africa, there were encouraging indications from a number of States – Cameroon, Mozambique, Comoros and Tanzania along with Angola were all mentioned. In the Americas, progress was being made in Haiti and Guyana and he understood that steps were being taken in Europe in regard to Andorra. He concluded his report on universalization by saying that he would like to acknowledge, on behalf of all States Parties, the excellent work being done on universalization by the BioWeapons Prevention Project

(BWPP). *This report is a very helpful and practical contribution to our campaign, and is yet another demonstration of the valuable role that can be played by civil society in advancing the aims of the BWC.*

The report of the meeting was then adopted. Following adoption of the report, Iran made a statement noting that consensus on the report should not imply that Iran recognised the state of Israel which is mentioned as an observer. Six further States Parties made brief statements thanking the Chairman and the other participants: Sweden (on behalf of the European Union), Ukraine, Cuba (on behalf of the Non-Aligned Movement), China, Australia (on behalf of the Western group), and Slovakia (on behalf of the Eastern group). Cuba took the opportunity to emphasize the Non-Aligned Movement Working Paper (W.P. 24) proposing a formal mechanism for Article X implementation.

The Chairman then made some closing remarks saying *we have had a focused, positive and constructive meeting. We have heard a huge range of material related to our topic of promoting capacity building in the areas of disease surveillance, detection, diagnosis and containment.* He then went on to say that *Although we have heard a great number of perspectives this week, there are a few common themes that ran through many of the presentations and working papers. One was the need for sustainability: if we are to build enduring capacity, we need to do more than just provide resources and equipment. We need an integrated approach that involves both the donor and recipient in making the necessary decisions and investment in planning, training and long-term commitment.*

Another common theme was the need for an integrated approach to human, animal and plant diseases, pooling information and resources, and coordinating efforts and institutions. I was particularly struck by the FAO presentation on plant diseases, and the terrible lack of resources and attention applied to this field. Greater integration with efforts on human and animal diseases may help to remedy this, but it clearly an area which would benefit from greater attention, both in the BWC and in other forums.

Perhaps the most commonly emphasised theme this week was the need to coordinate assistance, cooperation and capacity building activities – nationally, regionally and internationally. There is clearly a lot of very positive activity across the world, undertaken by a wide range of actors, aimed at building capacity in disease surveillance, detection, diagnosis and containment. But there is evidently great scope for better coordination of these activities, greater sharing of information, and improved integration in planning, implementation and follow-up.

Finally, we heard many statements and presentations outlining specific needs and requirements, as well as those that offered assistance and cooperation. I thank all those delegations which spoke openly and candidly about the challenges they face, and which listed their needs in a thoughtful, structured and realistic manner. I also thank those who extended specific offers of assistance, and who provided examples of projects aimed at building capacity. I hope that this Meeting will lead to a successful matching of at least some of these requests and offers.

He concluded by saying that he would be writing to all

States Parties about his plans for the Meeting of States Parties in December and that he would consult closely on this. He added that *As in previous years, I will prepare a synthesis paper that distills the essence of the many ideas and proposals we have annexed to our report. As I have said in the past, I think it is important that the Meeting of States Parties produces an outcome that is of practical assistance to States Parties in their efforts in capacity building for disease surveillance, detection, diagnosis and containment.*

Outcome of the Meeting of Experts

During the Meeting of Experts, 28 Working Papers were submitted by 15 States Parties with the numbers submitted by individual States Parties ranging from one to five: Canada (6), China (19, 20), Cuba on behalf of NAM (24), Germany (13, 14, 15, 25), Indonesia (5), Iran (21, 22), Iraq (7, 8, 28), Japan

(9), Norway (5), Republic of Korea (17), United Kingdom (1, 2, 3, 4), and the United States (10, 11, 12, 16, 23).

On the Thursday afternoon and on Friday morning, a preliminary compilation (CRP.1 and an addition to CRP.1) of the proposals made at the Meeting of Experts was circulated. An updated version was subsequently issued as Annex 1 to the report of the meeting (MX.3). The proposals were grouped under the following sub headings: I Aims, II Mechanisms, III Infrastructure, IV Human Resources, V Standard Operating Procedures and VI Problems, Challenges and Needs.

An analysis of the proposals in the tabulation below shows that they came from 29 States Parties, 4 international organizations and 5 guests of the meeting. The largest number of proposals came from Indonesia with 35 (including with Norway). Other major contributors were the United Kingdom (25), the United States (22), Iran (21), China (18), India (16) and Norway (with Indonesia) (16).

State Party	I Aims	II Mechanisms	III Infrastructures	IV Human Resources	V SOPs	VI Problems, Chal- lenges & Needs
Algeria						1
Bangladesh	1					
Bulgaria		1	2			
Canada	1	4	1	2	1	2
Canada & Kyrgyzstan			2			
China	4	5	4	3		2
Cuba on behalf of NAM	2	2	1	2		
France		4		1		
Georgia & UK			1	2		
Georgia & USA	1	3				
Germany		2	1	1	2	4
India	6	6	1		1	2
Indonesia	3	8	1	3	3	1
Indonesia & Norway	5	10			1	
Iran	3	7	5	4	1	1
Iraq	2	4	1			
Italy			1			
Japan	2	4		4	1	
Kenya	1	1	2	2		1
Mexico		2				
Nigeria		4	4	1	1	2
Pakistan	2	2	4		1	1
Philippines		1				
Republic of Korea	1	4			1	
Russian Federation	2	9	1			
Senegal		1				
Sweden on behalf of EU	5	5		1		
Turkey			4	1		
United Kingdom	5	14		2	1	
United States	5	7	3	2	1	
Total (No. of States Parties)	51 (18)	110 (24)	39 (18)	31 (15)	15 (12)	16 (10)

The analysis by international organization and guests of the meeting is provided below.

International organization	I Aims	II Mechanisms	III Infrastructures	IV Human Resources	V SOPs	VI Problems, Chal- lenges & Needs
ECDC		1				
FAO	1					1
OIE	1	3	1		1	1
WHO	1	5	1	1	2	1
Sub-Total	3	9	2	1	3	3

Guest of the meeting	I Aims	II Mechanisms	III Infrastructures	IV Human Resources	V SOPs	VI Problems, Chal- lenges & Needs
A. Gupte	4			2		
GHSI					1	
HealthMap		2				
ISBI	1		1			
IVI	3	1		1		
Sub-Total	8	3	1	3	1	--
Overall Total (including States)	62	122	42	35	19	19

As already noted, the Chairman has said that, for the Meeting of States Parties, he will create a synthesis paper that distills the essence of the many ideas and proposals contained in Annex I to the report of the Meeting of Experts.

Reflections

The Meeting of Experts had an excellent participation with just over 500 participants from 96 States Parties, 4 Signatory States, 3 States non-Party as well as from IGOs, guests of the meeting and NGOs. It was a one-week meeting addressing a single topic and although the programme had been planned to cover all the aspects identified prior to the meeting it had been necessary to amend the schedule in the light of the statements and presentations being made. As a consequence the two panel discussions that had been planned for the Thursday on integrating responses to human, animal and plant diseases and on public-private partnerships as a tool for dealing with disease had to be dropped. The meeting was held in open session throughout, as had been the case at the Meeting of Experts in 2008, thereby enabling the guests of the meeting and the NGO representatives to be aware of all the contributions and the discussion thereon, which can only increase understanding around the world of the issues being addressed. The poster session at the end of Thursday afternoon again appeared to have been a successful event, although with hindsight, such poster sessions would be more effective in bringing experts together if they were scheduled for much earlier in the week – preferably on the Monday or Tuesday.

Whilst the European Union and the NAM and Other States had group statements and had also submitted Working Papers, it was noted that the JACKSNNZ group (Japan, Australia, Canada, Republic of Korea, Switzerland, Norway and New Zealand) had neither a group statement nor coordinated Working Papers as they had in previous years, although two member States had made opening statements (Republic of Korea and Norway). The same was true for the group of twelve Latin American States (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Peru and Uruguay). Such group statements and coordinated Working Papers are valuable as they show that the issues being considered are being addressed both nationally and within the group.

It is noted that in the opening statements five countries, Algeria, Bangladesh, Iran, the Republic of Korea and Turkey looked ahead to the Seventh Review Conference in 2011. Algeria noted that *These meetings today are, from this viewpoint, a further opportunity to consider the status of the implementation of one of the pillars of the Convention,*

that is, Article X. It is particularly relevant to do this against the backdrop of the holding of the Review Conference planned for 2011. This is also a good opportunity to recall that the scope of the Convention continues to be limited because it is not endowed with a verification mechanism and to stress once again the need for a resumption of multilateral negotiations on a legally binding instrument in this area. Bangladesh said that *We should consider enhanced international cooperation to expedite their accession to the Convention. The ongoing Confidence Building Measures can serve as useful incentives to the process, and should be further strengthened. The ultimate objective of the Confidence building Measures should be to achieve an effective verification regime. My delegation looks forward to significant developments in this regard during the lead up to and at the Seventh Review Conference in 2011. We hope that the renewed vigour and optimism that we have witnessed in our recent work on disarmament will also provide impetus for further negotiations on an enabling instrument for the full and verifiable implementation of the BWC.* Iran said that *Iran attaches great importance to multilaterally negotiated instruments on Weapons of Mass Destruction including BWC which are essential for the maintenance of international and regional peace and security. We hope that a decision can be adopted in the Seventh BWC Review Conference in 2011 to let the negotiations be resumed on a legally binding instrument to comprehensively strengthen the Convention including in the area of international cooperation for peaceful purposes.* The Republic of Korea noted that *it is the sincere hope of my delegation that the planned intersessional work program will make a significant contribution to the success of the 7th Review Conference in 2011.* Turkey said that *On the road to the Seventh Review Conference in 2011, we have already addressed very important topics in 2007 and 2008. It then noted that This year's topic is also key to full implementation of the BWC regime and went on to say that When the inter-sessional program is hopefully completed at the end of 2010, we shall have accomplished our goal to strengthen and advance the implementation of the Convention, on the eve of the Review Conference of 2011. It then added that States Parties may wish to make use of the 2007-2010 inter-sessional period to consider new ideas in the next Review Conference for an implementation mechanism to enhance the new effectiveness of the Convention. It is commendable that States Parties are increasingly showing signs that they are looking ahead to the Seventh Review Conference in 2011*

and are preparing and submitting Working Papers during the intersessional period to prepare the ground for the Review Conference.

In this respect, the Working Paper (WP.24) submitted by Cuba on behalf of the NAM and Other States is welcomed. This Working Paper entitled *The Establishment of a Mechanism for the Full Implementation of Article X of The Convention* notes in its second paragraph that *we hope that a decision can be adopted in the Seventh BWC Review Conference in 2011 recommending negotiations on a legally binding Protocol to comprehensively strengthen the implementation of the Convention including in the area of international cooperation for peaceful purposes*. It then goes on to recommend *a plan with concrete actions for the full implementation of article X of the Convention*. Whilst the Working Paper focuses on how to achieve full implementation of Article X it needs to be recognized that other articles in the Convention also need to be addressed. For example, as India noted in its statement *The strengthened implementation of the provisions of Article III would ensure that the cooperation envisaged under Article X is not abused. Effective export controls are an essential component of international cooperation to ensure that disease causing organisms and pathogens do not fall into the hands of terrorists and are used only for peaceful purposes*.

The Cuba (NAM) working paper expresses the hope that the Seventh Review Conference in 2011 will adopt a decision recommending negotiations on the comprehensive strengthening of the implementation of the Convention. This aspiration is reflected in the statement made by Sweden on behalf of the EU that *the EU remains committed to working with a long term view to develop measures to verify compliance with the BTWC*. The Russian Federation also expressed support by saying that *At the same time we welcome the efforts of some States Parties to the BWC aimed at making CBMs universal. Success achieved here may facilitate substantive discussions on the elaboration of an effective verification mechanism for this Convention. The Russian Federation remains committed to the establishment of such mechanism*. Several other States Parties have made similar statements as noted earlier in this report.

A further proposal was submitted by Iran in its Working Paper (WP.22 and WP.22/Corr.1) which addresses transfer denials by proposing that a standing committee should be established under the Convention to consider the cases of transfer denials. It proposes that *the members of the committee should be duly experienced and competent, composed of well qualified governmental individuals and appointed on the basis of balanced geographical distribution*. The WP focuses solely on Article X of the Convention saying that *The imposition of restrictions on dual use application of know-how, materials and equipment necessary for promoting capacity building in the fields of disease surveillance, detection, diagnosis, and containment of communicable diseases including production of some vaccines and other biological material*

is considered as a blatant discriminatory action in gross violation of Article X. No mention is made in the WP of the obligation on States Parties under Article III of the Convention in relation to dual-use information, technology and materials.

There is much to be said for other States Parties responding to the ideas proposed in the Cuba (NAM) WP and also in the WP by Iran, by submitting working papers that further elaborate what issues and steps should be considered in approaching a decision at the Seventh Review Conference to resume negotiations aimed at improving implementation of the Convention and building confidence in compliance. It would also be helpful to reflect upon concrete measures that the Seventh Review Conference might adopt in regard to the topics considered during the intersessional process. The time to develop ideas and to share them internationally is now, during the remaining fifteen months before the intersessional process ends in 2010..

In looking ahead to the Meeting of States Parties in December 2009, the Chairman has undertaken to prepare a synthesis paper that distills the essence of the many ideas and proposals in Annex I to the report of the Meeting of Experts. This paper is likely to include language that can be incorporated into the substantive paragraphs of the report of the Meeting of States Parties. It is also to be hoped that the paper will include concrete proposals that can be developed by States Parties for consideration at the Seventh Review Conference. In addition, the Meeting of States Parties can be expected to give some consideration to the promotion of universality as well as to the annual report on the Implementation Support Unit. At the Meeting of States Parties in December 2009 the Non-Aligned Movement should advise who is to be Chairman for the intersessional meetings in 2010. In addition, the dates for meetings in 2010 will be decided. It would be very helpful if the Chairman for the 2010 intersessional meetings could take the opportunity at the Meeting of States Parties in December 2009 to set out his/her approach to the topic for 2010:

Provision of assistance and coordination with relevant organizations upon request by any State Party in the case of alleged use of biological or toxin weapons, including improving national capabilities for disease surveillance, detection and diagnosis and public health systems

so that the States Parties could start their preparations then instead of having to wait until they receive a letter sometime in 2010. Overall, the Meeting of States Parties can be expected to continue the momentum created by the successful outcome of the Sixth Review Conference and the intersessional meetings in 2007 and 2008.

This review was written by Graham S. Pearson, HSP Advisory Board.

What follows is taken from issue 85 of the Harvard Sussex Program CBW Chronicle, which provides a fuller coverage of events during the period under report here, and also identify the sources of information used for each record. All such sources are held in the Sussex Harvard Information Bank, which is open to visitors by prior arrangement. For access to the Chronicle, or to the electronic CBW Events Database compiled from it, please apply to HSP Sussex.

May The US Department of Defense (DoD) releases the final *Report of the Defense Science Board Task Force on Department of Defense Biological Safety and Security Program*. The report examines biological safety, security, and personnel reliability programmes at DoD biological laboratories and compares these with those in academia, industry and the federal government. Following a series of briefings and site visits, the task force determined that “DoD facilities are as good or better than those comparably sized facilities in other government, industry and academic sectors”. Nonetheless, it sets out a series of recommendations that the DoD should adopt “to enhance current biological safety and security operations at DoD laboratories while minimizing the impact of regulatory processes on their missions”. On a more general note, the task force concluded: “[A] determined adversary cannot be prevented from obtaining very dangerous biological materials intended for nefarious purposes, if not from DoD laboratories, then from other sources. The nation needs to recognize this reality and be prepared to mitigate the effects of a biological attack. Today, we as a nation are not prepared.”

2 May The Australian Department of Defence issues its 2009 White Paper [see also 5 Jul 07], which refers, amongst other things, to the future threat from weapons of mass destruction. On Islamist terrorism, the document states: “Despite its potential to cause mass casualties and catastrophic attacks on infrastructure, Islamist terrorism will continue to have inherent limitations as a strategic threat. Terrorists will keep aspiring to develop or acquire chemical, biological, radiological and even nuclear weapons. A WMD attack by a non-state actor in the coming decades cannot be ruled out.” On the general subject of proliferation of WMD, the paper states: “The number of states with WMD over the next 20 to 30 years is likely to increase, with the possible addition of Iran to the group of states with nuclear weapons, if efforts to dissuade it from moving down that path are not successful. The number of states with a ‘break out’ capability to rapidly produce WMD will also probably increase with the proliferation of dual-use infrastructure... WMD proliferation networks will continue to operate in the face of counter-proliferation and export control regimes, and the pace of WMD proliferation is unlikely to moderate. Military power will continue to play an important role in the disruption of WMD proliferation activity, for example through maritime interdiction, consistent with the international obligations of states. But it will remain the case that the best defence against WMD proliferation will continue to be found in security assurances, including US extended deterrence, and in the efforts of law enforcement agencies, customs and export control regimes, and counter-proliferation activities... It is the Government’s judgement that stable nuclear deterrence will continue to be a feature of the international system for the foreseeable future, and in this context extended deterrence will continue to be viable. The challenge will be to deter rogue states of concern, some of which may develop a level of capability in terms of long-range

ballistic missiles, coupled potentially with WMD warheads. Iran and North Korea, and possibly others in the future, will continue to pursue long-range ballistic missile programs that could pose a direct, though remote, risk to our own security.” Regarding counter-WMD capabilities, the document states: “The Government has decided to enhance the counter-WMD capabilities of the [Australian Defence Force] by establishing a deployable defensive counter-WMD capability in the Incident Response Regiment in support of land force or special operations activities. This will include some decontamination capabilities, as well as area and close survey, technical advice, and sophisticated measurement capabilities... Although we do not intend to develop a more substantial deployable counter-WMD capability in the immediate future, the Government has not ruled out doing so if our strategic circumstances warrant such a move. Such a force could provide cueing to assist in strike tasks (for example, by special forces) to eliminate the source of a WMD threat. The Government would, of course, only take such action in self-defence within the bounds of our international legal obligations.”

3 May The London *Daily Telegraph* reports the deputy-director of the Secret Intelligence Service (MI6) at the time of the US-led invasion of Iraq [see 20 Mar 03] as saying that the UK was “dragged into a war in Iraq which was always against our better judgment”. In a speech to the Institute for Public Policy Research in London, Nigel Inkster is reported as saying: “The Foreign Office no longer does foreign policy... It acts as a platform for a multiplicity of UK departments, and the lack of a clearly articulated sense of our strategic location in the world explains how we got dragged into a war with Iraq which was always against our better judgment”. [See also 31 Oct 07]

4 May In Russia, President of the Udmurt Republic Alexander Volkov says that additional funding is needed for construction of the Kizner chemdemil facility. Speaking at a news conference, Volkov says: “The situation with Kizner facility has indeed become more complicated because funding from the federal government was reduced and it is our facility that was affected [with priority having been given to the Pochep chemdemil facility]... We are still hoping to receive funding through foreign aid which is also envisaged in the [chemdemil] programme; so, hope remains.” Volkov says he expects construction of the Kizner facility to be finished on schedule. [See also 18 Apr 08]

4 May The Celtic League has written to the Italian and German embassies about research it has undertaken showing that German and Italian prisoners of war were used as forced labour for dumping munitions in northern England and south-west Scotland from 1945 to 1947, so reports Agence Bretagne-Presse. In the letter, Director of Information of the League J B Moffatt says: “[T]he 1929 Geneva Convention which should have been applied to these men does specifically preclude [...] work of this nature. This being so there clearly was a

breach of international law in relation to these men and despite the fact that very few will still be alive the circumstances of the situation should be looked into so that if there is any legal action that they (or your government) may wish to pursue against the British Government it can be initiated."

4 May The US Food and Drug Administration (FDA) is using a \$3 million mobile food-safety laboratory to help prevent contaminated foodstuffs from entering the food supply, so reports *USA Today*. FDA acting commissioner for regulatory affairs Michael Chappell is quoted by *USA Today* as saying: "Tools like our mobile labs [which comprise three motor homes fitted with tools for biological sample analysis] help make our food supply safer by allowing us to identify a potential problem faster, enabling us to react more quickly and limiting exposure to a food-borne pathogen that may make people sick."

5 May In South Africa, the *Cape Argus* reports that police will use remote-controlled robots capable of detecting different biological and chemical agents during security operations at the 2010 FIFA World Cup football tournament.

5 May In Brussels, the Council of the European Union adopts a regulation establishing an EU-wide system to control the export, transfer, brokering and transit of dual-use items. For the purpose of the regulation "dual-use items" mean items, including software and technology, which can be used for both civil and military purposes, and shall include all goods which can be used for both non-explosive uses and assisting in any way in the manufacture of nuclear weapons or other nuclear explosive devices." The list of dual-use items, which is set out in an annex to the regulation, "implements internationally agreed dual-use controls, including the Wassenaar Arrangement, the Missile Technology Control Regime, the Nuclear Suppliers' Group, the Australia Group and the Chemical Weapons Convention". [See also 8 Dec 08]

5 May US Border Patrol officers arrest a Canadian scientist who was attempting to cross from Manitoba into North Dakota, after uncovering twenty-two vials of unidentified biological substances in his car. Upon being stopped, Konan Michel Yao tells the officers that he was taking the vials to his new place of work at the Biodefense Research Laboratory in Bethesda, Maryland.

Eight days later, Agence France-Presse reports Yao as stating in an affidavit that he stole the vials from the National Microbiology Laboratory (NML), Winnipeg, Canada on 21 January 2009, which was his last day of work there, so he could continue his research in Maryland. During his time at NML, where he had just completed a post-doctoral fellowship, Yao's research had included working on a vaccine against Ebola and HIV. The news agency quotes US prosecutor Lynn Jordheim as saying that although tests have shown that the contents of the vials "are not hazardous" and that it had turned out "not to be a terrorism-related case", Yao still "faces possible charges for smuggling the vials into the United States". The Toronto *Globe and Mail* quotes NML scientific director Frank Plummer as saying that Yao worked with only non-infectious materials, and that the materials did not pose a threat to the public. He says: "It's basically genetic material, some of which had an Ebola gene in it, but it was just a gene, it was not infectious... The only thing he could have done with it would be to make an Ebola vaccine."

6 May The Israel Institute for Biological Research, Ness Ziona received around \$200 million in funding from the USA towards establishing a top-secret laboratory, at an unidentified location, to develop and produce a vaccine for anthrax because

permission to conduct a trial of the vaccine in the USA would likely have been refused, so reports Intelligence Online. The report is made in the context of the recent pronouncement of a committee established by the Israel Medical Association criticizing the resulting anthrax vaccine experiments conducted on servicemen by the Israel Defense Forces' Medical Corps and the Institute following the end of the 1991 Gulf War [see 19 Jan] and the ruling relating thereto made by the Israeli High Court of Justice [see 25 Mar].

6 May In Brighton, UK, a team of researchers have determined that when administered to animals, nicotine works "to block the tissue-destroying effects of ricin" and so reduces death and organ failure, so reports UPI news agency. The team, from the University of Brighton, say that the results of the research means nicotine agonists could potentially be used in patients exposed to ricin as a temporary measure prior to other treatments taking effect. UPI news agency quotes the team as saying: "The protective effect of nicotine appears to be associated with its anti-inflammatory effect, suggesting a possible therapeutic strategy of activating the cholinergic anti-inflammatory pathway following ricin exposure to protect against multiple organ failure... The overall effect of nicotine on maintaining liver and kidney function, while reducing systemic inflammation, may account for the reduced mortality observed with ricin exposure."

6 May President Barack Obama announces his intent to nominate Dr Tara O'Toole for the post of Under Secretary for Science & Technology in the Department of Homeland Security. She is currently director of the Center for Biosecurity at the University of Pittsburgh Medical Center. The nomination is controversial. She appears before the US Senate Homeland Security and Governmental Affairs Committee for her nomination hearing on 10 June.

6 May The US Department of the Army issues a revised version of its *Safety Standards for Microbiological and Biomedical Laboratories*. The 45-page pamphlet "prescribes the technical safety requirements for the use, handling, transportation, transfer, storage, and disposal of infectious agents and toxins (IAT) rated at biosafety level 2 and above", and applies to "all US Army activities and facilities in which IAT are used". It states that "microbiological and biomedical activities are conducted by the US Army in developing measures to identify, detect, diagnose, treat, and protect against IAT".

6 May The Texas Senate passes legislation to amend the Texas Public Information Act so as to prevent the public from accessing information on select agents at state laboratories. The Associated Press notes that existing federal law restricts information on select agents, including the sites where they are stored and the means of transfer between facilities; however, there is no corresponding state law that would apply to facilities such as the biodefence laboratory at the University of Texas Medical Branch in Galveston.

6-7 May In Washington DC, the National Defense University Center for the Study of Weapons of Mass Destruction holds its ninth annual symposium. The subject on this occasion is: *Are We Prepared? Four WMD Crises That Could Transform US Security*.

6-8 May In Grodno, Belarus, there is a specialized regional workshop for customs and border authorities of eastern European parties to the CWC on the technical aspects of the CWC transfers regime. The aim of the workshop, which is

jointly organized by the Belarusian State Border Guards Committee and the OPCW, is to familiarize participants with key aspects of the CWC's export-control regime, with particular focus on relevant transfers and matters pertaining to transshipment. The event includes two field trips: one to a border post between Belarus and Poland; the second, to the Grodno-Azot Petrochemical Enterprise. In total, there are twenty-four participants from the following sixteen CWC parties: Albania, Armenia, Bulgaria, Czech Republic, Estonia, Georgia, Hungary, Kyrgyzstan, Latvia, Lithuania, Montenegro, Poland, Moldova, Romania, Serbia and Ukraine.

7 May In Washington DC, the National Academy of Sciences and the Federal Bureau of Investigation have reached agreement on the terms of the projected NAS review of the FBI's scientific work in its investigation of the anthrax-letters episode [see 24 Feb]. The NAS is to receive payment of \$879,550 for an 18-month study that will focus on the genetic fingerprinting that led the FBI to the late Dr Bruce Ivins, but which will not assess the FBI's other detective work in the case. The provisional membership of the NAS committee that is to undertake the work is webposted by the Academy on 1 July. The 15-person committee is to be chaired by Dr Alice P Gast, president of Lehigh University.

7 May In New York City, owing to technical problems, the Department of Homeland Security has removed a network of sensors, installed across the underground railway network, that were intended to provide early warning of the release of biological agents, so reports *The Washington Post*. The sensors were removed two months previously upon it becoming apparent that an instrument designed to detect a particular agent in several of the Autonomous Pathogen Detection System sensors had begun to malfunction. DHS deployed the experimental sensors two years previously under the BioWatch programme, having installed sensors in more than thirty cities across the USA four years prior to that [see 14 Nov 03]. The *Post* quotes DHS Deputy Assistant-Secretary Robert Hooks as saying that an alternative system, known as Gen 3 Biowatch, is scheduled for initial deployment late next year, though given the need for continued testing it will not be available nationwide until 2012.

8 May In Moscow, the State Duma committee on natural resources, environmental management and ecology holds a session to discuss the government's annual report on the implementation of the CWC in 2008. According to Interfax-AVN, the report notes that although the key activities for 2008 were generally completed, the Pochev facility was not commissioned in 2008 as required. The report notes that in 2008 the number of cases of violation of industrial safety standards decreased by 20 per cent compared to 2007, while breaches of the environmental protection legislation were down by 150 per cent. It further notes that no cases have been reported of environmental quality standards being violated at any of the Russian chemdemil facilities in Russia. [See also 11 Jun 08] Meanwhile, *Defense and Security* reports head of the committee Natalia Komarova as saying that Russia might not be able to meet its April 2012 chemdemil deadline owing to the delay in beginning operations at the Pochev facility. [see also 9 Apr].

10 May In Afghanistan, US military spokesman Colonel Greg Julian denies that six days previously US forces used white phosphorus in a battle in Balabolok District of Farah Province that resulted in more than 120 civilian casualties. "There was no smoke or illum (illumination) used in Farah... I can't say whether the insurgents used it, but we certainly

didn't," says Julian. The statement is made after Nader Nadery, a member of Afghanistan's independent human rights commission, quoted Afghan doctors as saying the victims "had burns on bodies and face, and the doctors have said it was something not usual from a bomb explosion". The Associated Press quotes the doctors as saying that there were fourteen victims in total. Reuters news agency notes that the incident follows an admission by the US military that the first known casualty of white phosphorus was a girl who died after her house was struck by a shell the previous week in Kapisa. The US military, however, denied having fired the shell, instead blaming the Taliban, and has since released accounts of four incidents in the last two years when the Taliban allegedly has used white phosphorus. Meanwhile, an unidentified "UN official" is quoted by the Associated Press as saying that UN human rights investigators have noticed "extensive" burn wounds on the victims and have raised questions about how the injuries were caused, but have not yet reached any conclusions relating thereto.

The next day, the US military issues a statement which says that it knows of 44 cases in which insurgents have used white phosphorus to make bombs, to attack bases or outposts or where stockpiles of the chemical have been uncovered. The statement adds that the "declassification and release" of this information is made "in response to claims that insurgents do not use, nor have access to, white phosphorus". The cases included eleven occasions in which insurgents fired white phosphorus rounds; no case resulted in anyone being reported to have been killed or injured. Reuters news agency quotes Colonel Greg Julian as saying: "The insurgents possess and use white phosphorus as a weapon against people. It's a law of war that we adhere to but the insurgents blatantly violate." *The (London) Times* reports spokeswoman for the US Army Major Jennifer Willis as saying that markings on some of the white phosphorus rounds that had been recovered showed that they had been manufactured in a number of different countries, including the UK, China, Russia and Iran. The US military says that some of the rounds date back to the war between Afghanistan and the Soviet Union in the 1980s, however, it suspects that the newer models have been smuggled across the border with Pakistan. Willis says the earliest report of the insurgents using white phosphorus was in February 2003, but the eight known improvised explosive device cases, including one in the south of the country have all occurred since March 2007. As regards the alleged use by US forces of white phosphorus in Farah, Agence France-Presse (AFP) quotes Captain Elizabeth Matthias as saying that after again checking its reports of the incident the military has concluded that "no munitions containing white phosphorus were used by coalition forces in Farah", adding that the use of white phosphorus against any persons, including enemy forces, is against the US military's rules of engagement. Meanwhile, AFP quotes Yousuf Ahmadi, a spokesman for the Taliban, who rejects the allegations that the Taliban are using white phosphorus thus: "The main weapons that Taliban have are Kalashnikovs, PKs (heavy machine guns) and rocket launchers. They have never had phosphorus bombs."

Five days later, Bakhtar news agency reports the Afghan Ministry of Defence as saying that a delegation which it sent to Farah had not seen any signs of chemical weapons use in the area and that any use thereof cannot be proved. A report by the delegation puts the number of dead at 140 and the number of wounded at 25.

10 May From Sweden, the EuroKurd Human Rights group runs an interview with a man accused of having been one of the pilots who attacked Halabja with chemical weapons during Operation Anfal [see 18 Mar 88]. Tariq

Ramadan, who is now seeking political asylum in Sweden, was detained by US forces in northern Iraq in February 2005. According to EuroKurd, initial reports suggested he then escaped from a hospital in October 2007, however, subsequent reports show that Iraqi President Jalal Talabani had ordered his release. In the interview, Ramadan claims that he was not flying in 1988 owing to injuries he had previously sustained, adding that the relevant logbooks show he was not flying during the weekend the attack occurred.

Five weeks later, the Iraqi Kurdish newspaper *Awene* publishes an interview with Ramadan, which was prepared by Kurdosite Observer (CHAK), in which he responds to the accusation that he was one of the pilots that bombed Halabja as follows: “[N]o charges have ever been pressed against me in accordance with Iraqi law. I have never been told why I was accused and was never told according to what evidence or intelligence the [Asayish] Security Administration decided on my arrest and detention. I have never been shown any piece of evidence with regard to that accusation... [My flight notebook] proves that on the days when Halabjah was attacked, I did not fly at all... I had no participation in the Halabjah attack. That is why I categorically do not know the identity of the people who are responsible for the attack... I do not know anything about the strike on Halabjah and those who participated in it.” Ramadan also says that he did not escape from prison, but was released. Asked whether his release was requested by Talabani, Ramadan replies: “No. My release was due to the support of a great number of people from the region throughout the past two years. It was also due to the efforts of Ann Clwyd, who is the [UK] prime minister’s special representative in the field of human rights in Iraq. That campaign was supported by many individuals and organizations such as the National Union for Journalists and the British Editorial Photographer.”

10 May UK Security Minister Lord West of Spithead says that the UK Home Office, in co-operation with the Association of Chief Police Officers, conducted two large-scale national counter-terrorism exercises last year as compared to the usual three conducted annually over the past decade. Speaking in the House of Lords, he says the reduction happened owing to a “realignment in the programme” and pointed out that many more anti-terror exercises were carried out by individual police forces, government departments and organizations such as the National Counter Terrorism Security Office. The London *Financial Times* quotes an unidentified Home Office spokesperson as saying: “By 2011, we will be spending £3.5 billion a year on countering terrorism. In recent years the number of police personnel dedicated to counter-terrorism work has grown by over 70 per cent; the Security Service has doubled in size.”

11 May In Charikar, Afghanistan, forty-six schoolgirls are hospitalized following what appears to be the second a gas attack on a girls’ school, so reports Reuters news agency. Anwar Karimi, a doctor at the hospital where the girls were admitted, is quoted as saying the symptoms of the patients, i.e. including nausea and dizziness, were similar to those suffered by the victims of a similar attack on a different girls’ school in the same town on 26 April. The Associated Press, meanwhile, reports that 61 schoolgirls and one teacher were hospitalized.

A day later, another gas attack in takes place on a girls’ school in Mahmud Raqi in the neighbouring Kapisa province which results in 98 people being hospitalized, including 84 pupils, who suffer with headaches and nausea. Afghan Interior Ministry Spokesman Zemer Bashary is quoted as saying that officials suspect some form of gas poisoning in Muhmud Raqi,

but that police were still investigating. *The (London) Independent* reports unidentified officials as saying that at least five of the girls briefly slipped into comas. Gulcheena, one of the schoolgirls affected, reportedly describes the gas smelling like a chemical known locally as Mallatin, which farmers sometimes spread on fields to poison foraging birds. [See also 10 May]

11-15 May In Seoul, South Korea, the fifth [see 22-26 Sep 08] regional assistance and protection course for Asian CWC parties takes place. The event, which is jointly organized by the government of South Korea and the OPCW, brings together participants from twenty-two countries, including China, India, Iran, Indonesia, Pakistan, Turkey and Sri Lanka. The course offers participants training on detection and decontamination of chemical weapons, as well as the opportunity to exchange information on know-how and equipment for dealing with chemical weapons.

12 May In Libya, a man who was the source the USA relied upon when claiming that al-Qaeda operatives had received chemical and biological weapons training from Iraq has apparently committed suicide in prison, according to *The Washington Post*, which quotes a report in the Libyan newspaper *Oed* published two days previously. The death of Ibn al-Sheikh al-Libi at the Abu Salim prison is also reportedly confirmed by Heba Morayef, a researcher for Human Rights Watch, who met with al-Libi two weeks previously. According to the Senate Select Committee on Intelligence, al-Libi – who was captured by US forces in Afghanistan in November 2001 – was the unnamed source behind the claim that Iraq was collaborating with al-Qaeda [see 8 Sep 06]. His testimony was subsequently found to have been obtained under torture after he was transferred to Egyptian custody for questioning by the CIA in 2002. The claim that Iraq was collaborating with al-Qaeda was made by President George Bush [see 021007] and the then Secretary of State Colin Powell in his presentation to the UN Security Council [see 5 Feb 03]. Powell subsequently said he was not given all available intelligence and analysis within the government when he made the speech [see 18 Dec 05].

The next day, *The (London) Guardian* reports that al-Libi in fact died of tuberculosis. Meanwhile, writing in the web-based journal *Washington Note*, Lawrence Wilkerson, the former chief of staff to Colin Powell, says that an interrogation programme initiated in 2002 – which was overseen by the then Vice-President Dick Cheney – was aimed primarily at establishing a connection between Iraq and al-Qaeda [see also 6 Feb 06]. “Its principal priority for intelligence was not aimed at pre-empting another terrorist attack of the US but discovering a smoking gun linking Iraq and al-Qaeda,” says Wilkerson.

12 May In the US Senate, the Armed Services Committee conducts a hearing on the nomination of Andrew Weber to be Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs.

12 May The US Office of the Director of National Intelligence (ODNI) announces that its National Counterproliferation Center has launched a new web site – www.CounteringWMD.gov – which is aimed at “providing a better understanding” of the threat of WMD and to explain how the Center is “leading and integrating the intelligence community’s work against it”. In a press release, the ODNI says that the National Counterproliferation Center works together with the National Counterterrorism Center and the National Counterintelligence Executive to promote “intelligence collaboration across the intelligence community for collection, analysis and dissemination”.

12-14 May In Miami, there is a Proliferation Security Initiative (PSI) Operational Experts Group Meeting. Participating in the meeting, which is being hosted by the US Southern Command and the Office of the Secretary of Defense, are experts from thirty-four countries that have signed up to the PSI. The US Southern Command hosted a PSI Operational Experts Group Meeting three years previously [see 12 Apr 06].

13 May Syria may have constructed a biological weapons facility, on the site of the al-Kibar plutonium reactor, which was destroyed by Israel in 2007, so reports the *Jerusalem Post* referring to "reports [that] have surfaced in recent days". [See also 17 Feb]

13 May The OPCW Technical Secretariat posts on its website the first instalment of the new *OPCW Quarterly Update*, which substitutes for the former print magazine, *Chemical Disarmament*.

13 May At King's College London, Brian Balmer of the Department of Science and Technology Studies, University College London, gives a research seminar in the Centre for Science and Security Studies entitled *Opening up Cold War Chemical and Biological Warfare Research at Porton Down: From Top Secret Memos to TV Broadcasts*.

13-14 May In Bethesda, Maryland, the Department of Health and Human Services Working Group on Strengthening the Biosecurity of the United States conducts a public consultation meeting. The workshop comprises panel discussions on the following themes: select agent regulations; physical/facility security at select agent programme entities; oversight and inspection of select agent facilities; transportation of select agents; personnel security/reliability programmes; culture of security and responsibility and training programmes. The Working Group was established by former US President George Bush to study strategies for increasing security at laboratories that conduct research on biological select agents and toxins [see 9 Jan].

14 May In Singapore, a researcher at the Nanyang Technological University has compiled a report listing every confirmed case of malicious food poisoning globally since 1950, so reports *The (London) Guardian*. In total, G R Dalziel identified 365 cases and an additional 126 unconfirmed cases. According to Dalziel, 72 per cent of cases occurred at the end of the food supply chain, typically by a friend, relative, neighbour, or co-worker of the victim, while 23 per cent of cases occurred at the retail or food service level. The number of incidents where people have contaminated the actual food supply are minimal, while the deliberate contamination of a water supply has occurred on seven occasions, resulting in three deaths. Only in Australia in 2006 has anyone deliberately contaminated a crop prior to harvest and in this instance the crops were recalled before entering the supply chain. Nearly all cases involved the use of poisons such as cyanide, drain cleaner, mercury or weed killer. In total, nine incidents were recorded where biological agents were used – including salmonella, ricin, and faecal matter – and eight cases of radiological matter.

15 May From New Delhi, the Indo-Asian News Service reports that, on 26 March, India had informed the OPCW that the destruction of its stockpile of chemical weapons [see 16 Mar India] was complete and that, since then, India has also destroyed the former chemical-weapons production facility that had been temporarily converted for chemical-weapons destruction purposes. Further, IANS reports that

India had declared a stockpile of 1044 tonnes of sulphur mustard, of which less than two percent had been held in artillery shell, the rest being stored in bulk containers.

15 May From OPCW headquarters, Michael Luhan, spokesman for the OPCW, says the OPCW appeals to North Korea to join the CWC "as a matter of urgency and without preconditions". In an email exchange with Yonhap news agency, Luhan adds: "The OPCW is disappointed at the lack of interaction with [North Korea], which together with Myanmar remain the only two countries in Asia that have not joined the [CWC]... We are optimistic that [North Korea] will recognize the many benefits from joining the convention and engage with the OPCW to begin that process."

15 May In Brighton, UK, the Harvard Sussex Program holds a seminar in memory of Ian Kenyon [see 7 Aug 08] on *The OPCW Past, Present and Future* at the University of Sussex. Presentations are given by Ron Manley, UK Defence Academy; Griselda Kenyon; OPCW Deputy Director-General John Freeman; and HSP Co-Director Julian Perry Robinson.

15-16 May In Paris, the International Tribunal of Conscience in Support of the Vietnamese Victims of Agent Orange holds a hearing into the use of Agent Orange by the US military in Vietnam from 1961 and 1971. The Panel of judges include: Judge Juan Guzman from Chile; Marjorie Cohn, a professor of International Law from the USA; Claudia Morcom, a retired US judge; Gavril Chuizbaian, former Romanian Justice Minister; Jitendra Sharma, a senior advocate in the Indian Supreme Court; and Shoji Umeda, a Japanese lawyer. The tribunal examines evidence and testimonies from a total of 27 victims and experts.

Two days after the end of the hearing, the tribunal issues its ruling which, amongst other things, concludes that the USA's use of Agent Orange was a war crime and a crime against humanity. It recommends that a commission on Agent Orange be established to assess the amount of compensation to be allocated to each victim, family and community; to determine the amount needed to provide specialised medical facilities, rehabilitation and other therapeutic services to treat the victims and their families; and to estimate the cost of studying the contaminated areas and the future cost of restoring the environment. The judgment of the tribunal will now be sent to Vietnamese President Nguyen Minh Triet, US President Barack Obama, UN General Secretary Ban Ki-moon, and the Human Rights Committee. The tribunal was established by the International Association of Democratic Lawyers, which was founded in 1946 to work to make "the violation of human rights of groups and individuals and threats to international peace and security, legal issues under international law". [See also 2 Mar]

18 May In Brussels, defence ministers from the Czech Republic, France, Germany, the Netherlands and Spain launch a EUR 100 million project to develop equipment for detecting and identifying biological agents used against troops. A statement issued by the European Defence Agency says that other member states of the European Union "have expressed their intention to join" the Biological Equipment Development and Enhancement Programme, or 'Bio-EDEP'. A series of conclusions adopted by the Council of the European Union on the European Security and Defence Policy notes that the project will "address the European shortfall in biological detection, identification and monitoring" so as to provide the forces of participating member states with "a robust and reliable protection system by 2015".

18 May *The Washington Post* reports a committee of the National Academy of Sciences as recommending that the US Army expand its research into the ways in which a soldiers' neurological system works, with a view to developing applications that could increase performance and ability to survive in combat. Amongst other things, the report suggests taking brain scans during fear-invoking situations in training so as "to determine which environments elicit fear-correlated neural activity patterns". It notes that during the 1991 Gulf War, soldiers experienced fear when sensors indicated the presence of chemical warfare agents, and there was "significant disorganization of military units even when the sensor warnings were false positives". Noting that physics and chemistry are the basic sciences for the Army's bullets, shells, tanks, missiles and aircraft, the committee thinks that "neuroscience as defined in this report is the foundational science for the soldier."

18 May From Philadelphia and London, Thomson Reuters announce the results of a study assessing influential research on bioterrorism from 1999 to 2008. The study, conducted by Science Watch, is based on more than 12,000 bioterrorism-related papers published during the said period in journals indexed by Thomson Reuters. In its ranking of the top 25 institutions by citation impact (i.e. average citations of each paper published for those institutions that published 25 or more), 23 are in the USA, two in the UK and one in Italy. Of the 25 authors that are cited the most often, the first four are Arthur Friedlander of the US Army, Stephen Leppla of US NIAID, and Thomas Inglesby and Tara O'Toole [see 6 May] of the University of Pittsburgh Medical Center.

18 May In Colombia, the Army says that the Revolutionary Armed Forces of Colombia (FARC) are using bullets containing cyanide and excrement to kill or cause serious injury to members of the Army. Speaking to the Bogota *El Nuevo Siglo*, Armed Forces Chief of Staff Admiral David Moreno says: "It appears to be a lie, but in reality Colombia is suffering from the indiscriminate use of various chemical elements by the FARC to kill our men... [Using cyanide in their ammunition] allows them to kill a person that has been wounded. Our soldiers are being killed with cyanide poisoned bullets... In other cases authorities confirmed the use of excrement in bullets and traps in order to cause serious infections in people wounded in combat... It must be reported that the FARC is using chemical warfare to murder Colombians." [See also 18 May 04]

18-21 May In Stratford-upon-Avon, UK, there is the twelfth International Chemical Weapons Demilitarization Conference. The event – which is co-sponsored by the Defence Science and Technology Laboratory, UK Ministry of Defence; the US Army Chemical Materials Agency; SAIC, USA; and Versar Inc, USA – brings together international experts to discuss issues relating to chemdemil and to improve international cooperation relating thereto. In his keynote speech, OPCW Director-General Rogelio Pforr notes that Russia has now destroyed 30.35 per cent and the USA 60.11 per cent of their respective declared stockpile of Category 1 chemical weapons [see also 21-24 Apr].

19 May In the US House of Representatives, the Veterans' Affairs Oversight and Investigations Subcommittee convenes for the first of three hearings on Gulf War Illness research. The purpose of the hearing is to provide a review of the history of the research that has been conducted on Gulf War Illness, to examine the methodology used by the Department of Veterans Affairs to determine possible exposure to toxins and pesticides, and to focus on the ongoing challenges

veterans face as a result of their service in Operations Desert Shield and Desert Storm.

19 May In Arkansas, USA, the Pine Bluff Arsenal announces that the Department of Environmental Quality has approved an increase in the rate at which mustard agent stored at the facility can be incinerated, from 50 per cent to 75 per cent of the permitted maximum for each furnace. The facility began destroying ton containers of mustard agent at the end of last year. According to the Associated Press, the facility has, as of two days previously, "destroyed 494 containers holding 826,745 pounds of mustard agent, which was 13.34 per cent of the total mustard containers to be destroyed", adding that it has incinerated 27.13 per cent of its original chemical agent stockpile. Previously, the facility had completed the chemdemil of its VX and sarin munitions [see 3 May 08].

21 May In Nairobi, Kenya, Hassan Omar Hassan, the chairman of the Kenya National Commission on Human Rights says that the use of tear gas by law enforcement officials is both "illegal" and "a violation of human rights". Speaking at the same conference, however, Benard Amoh, of the OPCW, says "its use is acceptable for law keeping purposes, but its effect should not contravene the [CWC]".

25-29 May In Lázne Bohdanec, Czech Republic, there is an advanced training course on civil defence against chemical weapons at the Institute for the Protection of the Population [see also 15-19 May 06]. The course, which is jointly organized by the government of the Czech Republic and the OPCW, is an annual course offered by the Czech Republic under Article X of the CWC. It provides training in planning, preparation, conduct, evaluation and responses with regard to operations in contaminated areas; as well as responses and countermeasures to incidents involving the use of chemical-warfare agents.

25-29 May In Brasilia, Brazil, the first CWC regional assistance and protection course on chemical-emergency response for CWC parties from the Latin American and the Caribbean region takes place. The course is jointly organized by the Brazilian government and the OPCW. It offers training in planning and building a support team in civilian defence for chemical emergencies, as well as risk assessment and contingency plans in the event of incidents involving chemical warfare agents.

25 May-6 June In Umeå, Sweden, a training course is scheduled to take place for experts on the roster of the United Nations who are available to the UN Secretary-General for investigations of the alleged use of chemical and biological weapons. The event is being financed by the Swedish government and organized by the European CBRNE Centre, University of Umeå, with the support and cooperation of the United Nations Office for Disarmament Affairs. The course is the first of its kind to be offered by a member state of the United Nations.

26-28 May In Sofia, Bulgaria, the eighth [see 3-5 Jun 08] regional meeting of CWC national authorities in Eastern Europe takes place. Attending the meeting, which is co-hosted by the government of Bulgaria and the OPCW, are 36 participants from the following 23 CWC parties: Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, the Former Yugoslav Republic of Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia and Ukraine. During the meeting, representatives of

national authorities consider issues arising from the implementation of the Article VI verification regime and share their experiences on issues relating to implementation.

29 May In Russia, there is a ceremony to mark the opening of the Shchuchye chemdemil facility, which twelve weeks previously commenced destruction of its stockpile of rocket warheads filled with sarin [see 5 Mar 09]. Among those attending the ceremony is OPCW Director-General Rogelio Pfirter. A press release by the OPCW states: "The weapons to be destroyed at Shchuchye contain in total about 5,460 metric tonnes of nerve agent including sarin and VX; this represents about 14 per cent of the chemical weapons that Russia is obliged to destroy. During the destruction process, OPCW inspectors will maintain a 24-hour presence at the facility to ensure that all chemical weapons at the site are irreversibly destroyed. According to Reuters news agency, the facility "is expected to begin disposal at a rate of 850 metric tons of agent per year, but to double the rate of work at the end of 2009 when a second facility begins operations". Speaking at the ceremony, Head of the Federal Directorate for the Safe Storage and Disposal of Chemical Weapons Valeriy Kapashin says: "The [...] facility is being built in sections... At the same time, capacity is being increased and construction is continuing. This concept of increasing capacity is also being implemented at the chemical weapons disposal facilities Maradykovskiy in Kirov Region, and Leonidovka in Penza Region." Meanwhile, in his speech Industry and Trade Minister Viktor Khristenko notes that the facility had cost around 19 billion roubles to construct. "Around 56 per cent of the funding was from the government of the Russian Federation; 44 per cent was sponsorship from abroad, 36 per cent of which was aid from the USA," says Khristenko. In addition, Khristenko says that Russia has so far destroyed 36.6 per cent of the chemical weapons stockpiles stored in the country and is on schedule "to destroy 45 per cent by the end of 2009, which is 18,000 tonnes of toxic substances stored in the Russian territory". He adds: "We will fulfil our obligations to destroy [chemical weapons] despite everything, despite any doubts that may arise [see also 8 May]."

29 May At OPCW headquarters, the Technical Secretariat launches its web-based Scheduled Chemicals Database. According to OPCW Director-General Rogelio Pfirter, "the database is funded under the 2007 Joint Action of the European Union and is intended to support all interested parties, such as national authorities, industry representatives, and customs officials in the identification of scheduled chemicals."

29 May The American Association for the Advancement of Science (AAAS) releases *Biological Safety Training Programs as a Component of Personnel Responsibility*. The report is based on the proceedings of an AAAS workshop held ten weeks previously, which brought together more than two dozen experts in biosafety, biosecurity and the life sciences, along with architects and engineers. The report concludes that the federal government should not apply personnel security measures such as those used at nuclear facilities to bioresearch laboratories as they may hamper research and discourage talented researchers from working in the field. The report states that prior to introducing new requirements for non-government research institutions, the government should "consider existing employment and biosafety training practices [...] as they may already contribute to vetting of personnel" and prevent "malicious actors or unstable personnel" from gaining access to pathogens that could be used in acts of bioterrorism. Instead, it proposes greater government funding for safety training at research

institutions and urges the facilities themselves to enact training requirements for their personnel. The report makes a total of eight recommendations regarding training and also recommends that research institutions provide "realistic information" about the hazards that exist in a high-containment facility to local emergency responders to assist them in the event of an emergency. The report notes that as of February 2009, 336 entities had registered to work with select agents through the Centers for Disease Control and Prevention and the Animal and Plant Health Inspection Service, Department of Agriculture. [See also 26 Feb]

29 May In the USA, Federation of American Societies for Experimental Biology (FASEB) President Richard B Marchase transmits a letter to Laura Kwinn of the Working Group on Strengthening the Biosecurity of the United States, Department of Health and Human Services setting out the position of FASEB and the Association of American Medical Colleges (AAMC) with regard to strengthening biosecurity.

29 May-12 June In Helsinki, the Finnish Institute for Verification of the CWC (VERIFIN) hosts an analytical skills development course [see also 10-14 Sep 07].

31 May-4 June In Israel, there is a nationwide exercise based on a 'doomsday scenario', which is designed to assess the country's emergency-response infrastructure for dealing with terrorist attacks and natural disasters. Exercise 'Turning Point 3' is the third [see 6-10 Apr 08] and, to date, biggest such exercise to take place following the rocket attacks launched against Israel by Hezbollah in 2006 [see 13 Sep 06]. The exercise – which includes simulated attacks on high-density population centres with missiles armed with conventional, chemical and biological warheads – is based on a two-week war during which Israel is fighting on three fronts, i.e. Syria, Lebanon and the Gaza Strip, and having to respond to waves of missile and rocket attacks. Although the public are required to seek refuge in shelters, they are not required to wear gas masks. The reason for this, according to *Haaretz*, is that the state comptroller recently concluded "the low proportion of masks that are fit for use will not enable the protection of most inhabitants of the State of Israel if the country is attacked with chemical weapons" [see 2 Mar]. In addition to the participation of emergency first-responders, Cabinet ministers also meet to develop appropriate responses, while civil servants, military personnel and school workers practice their emergency response procedures. Agence France-Presse reports that the exercise comes only two weeks after the air force completed a four-day exercise to test its ability to defend against missile and jet strikes from Syria and Iran.

June The Australian Department of Foreign Affairs Safeguards and Non-Proliferation Office releases *The Chemical Weapons Convention: A Guide for Australian Industry Producing, Using or Trading Chemicals*.

June In the USA, the Woodrow Wilson International Center for Scholars publishes *Ethical Issues in Synthetic Biology: An Overview of the Debates*. The paper is written by Erik Parens, Josephine Johnston, and Jacob Moses of the Hastings Center – a bioethics research institute – in Garrison, New York. The Synthetic Biology Project was established by the Woodrow Wilson Center in August 2008 and is supported by a grant from the Alfred P Sloan Foundation.

1 June In Egypt, a Muslim cleric issues a ruling which states that the use by Muslims of weapons of mass destruction should only be used as a deterrent so as not to

violate Islamic teachings, so reports BBC News Online, quoting Mena news agency. Grand Mufti of Egypt Ali Gomaa, who is state-appointed, issues the ruling following reports that the use of such weapons would be legitimate.

1 June The Czech Republic despatches eighty troops from its 31st CBRN brigade to Kosovo where they will join the Foxtrot reserve company. Speaking to CTK news agency, Czech military spokeswoman Andrea Krobotova says the reserve company will spend part of its mission in Kosovo and part at 31st brigade's base in Liberec, Czech Republic. If its service is required it will be sent to Kosovo within five days. [See also 17 Mar]

1 June The US State Department announces the appointment of Robert J Einhorn as Special Advisor for Non-proliferation and Arms Control.

2 June In Burnopfield, UK, police arrest a man after traces of ricin are found during a raid on the his house, which followed investigations by the authorities into extreme rightwing activity. Ian Davison is subsequently detained under the Terrorism Act 2000 together with his son Nicky Davison, who was initially detained on suspicion of inciting racial hatred following a raid of his home at Annfield Plain. Announcing news of the arrests at a press conference three days later, Assistant Chief Constable Michael Barton says: "Specialist police officers [...] have uncovered a substance, which we believe has traces of Ricin... It was in a sealed jam jar that has been kept in a kitchen cupboard - apparently for up to two years... Tests on the substance were carried out at a Government laboratory in Edinburgh [two days ago]... [The transfer of the substance to the Ministry of Defence establishment at Porton Down] will take place under a police or military escort... [No] one is believed to have been exposed to the substance or be at risk of any potential ill effects. We do not believe that there is any risk to public health." Barton continues: "This shows that the terrorist threat in the UK is real and present... The tentacles of this are worldwide... We believe the people involved to be white supremacist extremists and one of our lines of inquiry was that they were going to target people from ethnic minorities."

Nine days later, Ian Davison is charged with a series of offences under the Terrorism Act, including the preparation of terrorist acts by acquiring ricin and possessing a manual – entitled 'The Poor Man's James Bond' – which contained information on the use or production of firearms, explosives and chemicals. He is also charged with possession of a chemical weapon contrary to section two of the Chemical Weapons Act.

Seventeen days later, Ian Davison appears at the Old Bailey and is remanded in custody until October.

2-11 June In Algiers, there is a regional exercise and evaluation meeting on emergency response for north African CWC parties, which takes place under the framework of the Joint Action of the European Union [see 19 Mar 07]. Jointly organized by the Algerian national authority and the OPCW, the event is part of a project that has as its objective the creation of a regional emergency-response team.

3 June *The Washington Times* reports unidentified "US counterterrorism officials" as having authenticated an al-Qaeda recruiting video, first broadcast by Al Jazeera in February, which states the group is seeking to smuggle a biological weapon into the USA via the Mexican border so as to launch a large-scale biological attack. In the video – which

was acquired and translated by the Middle East Media Research Institute – Kuwaiti dissident and al-Qaeda recruiter Abdullah al-Nafisi says: "Four pounds of anthrax... carried by a fighter through tunnels from Mexico into the US are guaranteed to kill 330,000 Americans within a single hour if it is properly spread in population centers there... One person, with the courage to carry 4 pounds of anthrax, will go to the White House lawn, and will spread this 'confetti' all over them, and then we'll do these cries of joy. It will turn into a real celebration." Al-Nafisi also suggests that al-Qaeda would be prepared to collaborate with US extremists, including white supremacist groups, to carry out an attack.

4 June The Oslo *Aftenposten* publishes a statement on nuclear disarmament by four former prime ministers of Norway – Odvar Nordii, Gro Harlem Brundtland, Kåre Willoch and Kjell Magne Bondevik – and former foreign minister Thorvald Stoltenberg. The statement also makes reference to the 1925 Geneva Protocol in the following terms: "In effect, [the Geneva Protocol] was a convention on no-first-use. Since then, agreements to eliminate all such weapons have been made. While waiting for a similar agreement on nuclear weapons, doctrines of no-first use should be introduced also for these weapons. No weapons can cause so much destruction and so much suffering as can nuclear weapons. No-first-use doctrines mean that nuclear weapons have one function only: to prevent others from using theirs. They therefore have an in-built disarmament logic: nobody would need them if nobody had them."

4 June In the US House of Representatives, before the Energy and Commerce Subcommittee on Oversight and Investigations, Gregory D Kutz – Managing Director of Forensic Audits and Special Investigations at the Government Accountability Office (GAO) – provides testimony on *Military and Dual-Use Technology: Covert Testing Shows Continuing Vulnerabilities of Domestic Sales for Illegal Export*. In his testimony Kutz says: "GAO found that sensitive dual-use and military technology can be easily and legally purchased from manufacturers and distributors within the United States and illegally exported without detection... Due to the large volume of packages being shipped overseas, and the large volume of people traveling overseas, enforcement officials within the United States said it is impossible to search every package and person leaving the United States to ensure sensitive technologies are not being exported illegally. As a result, terrorists and foreign governments that are able to complete domestic purchases of sensitive military and dual-use technologies face few obstacles and risks when exporting these items." Kutz refers to a table that sets out items GAO was able to purchase using a bogus front company and fictitious identities, and, in two cases, illegally export without detection. The items include an "accelerometer" which "are suitable for use in 'smart' bombs and for measuring motions generated by nuclear and chemical explosives". It also acquired an oscilloscope. "Oscilloscopes are used for displaying the timing, voltages, frequency, and other attributes of electrical signals. In addition, certain oscilloscope versions are capable of being utilized in weapon of mass destruction development and are also export-controlled for antiterrorism reasons." Kutz concludes: "A comprehensive network of controls and enforcement is necessary to ensure sensitive technology does not make it into the hands of unauthorized individuals... The key to preventing the illegal export of these sensitive items [...] is to stop the attempts to obtain the items at the source, because once sensitive items make it into the hands of terrorists or foreign government agents, the shipment and

transport out of the United States is unlikely to be detected.”

Also testifying before the Committee is Government Accountability Director of Acquisition and Sourcing Management Anne-Marie Lasowski on *Export Controls: Fundamental Reexamination of System Is Needed to Help Protect Critical Technologies*. Lasowski’s testimony “is based on GAO’s high-risk report and its extensive body of work on the government’s programs designed to protect technologies critical to US national security interests”. She concludes thus: “Recently, agencies have taken several actions that may improve individual programs and processes in the export control system. However, the effectiveness of the existing system for protecting critical technologies depends on agencies working collectively. Our work in this area demonstrates the vulnerabilities and inefficiencies of the overall system.” GAO began its programme to report on government operations that it identified as ‘high risk’ in 1990. Its most recent ‘high-risk’ update was in January 2007, which identified 27 high-risk areas. Lasowski cites eleven other GAO reports in addition to the high-risk report.

4 June In the US House of Representatives, the Foreign Affairs Subcommittee on Asia, the Pacific and the Global Environment holds its second hearing on efforts to address the continuing impact of Agent Orange in Vietnam. Among those testifying before the committee – which is chaired by Eni F H Faleomavaega – is Deputy Assistant Secretary, Bureau of East Asian and Pacific Affairs, Department of State Scot Marciel, who says: “Agent Orange has long been a sensitive issue for both countries, and we have differed over the lasting impact of the defoliant on Vietnam. I am pleased to say that we are now engaged in practical, constructive cooperation... The governments of the United States and Vietnam have jointly cooperated on the issue of dioxin contamination since 2001. Our aim has been to strengthen the scientific capacity and infrastructure of Vietnam’s research institutions and improve the ability of Vietnamese authorities to protect the environment and promote public health for future generations... As we move forward, we will work hard to ensure US government assistance complements an open and effective multi-actor approach to addressing outstanding concerns related to Agent Orange.” At the first hearing a year previously, Marciel, in response to a demand by Faleomavaega for moral accountability, said that “the United States use of herbicides during the Vietnam War for the purposes of defoliating military bases, transportation corridors, and other crucial territory, and destroying enemy crops, therefore did not contravene the ban on poisons”. Also testifying is Vice-Chairman of the Vietnam National Assembly Committee for External Affairs Ngo Quang Xuan, who says that despite a warming of political relations between the two countries, matters cannot be normalized until the USA deals with the Agent Orange issue. However, he says, efforts to clean up Agent Orange have often been pushed aside. Chairman of the Vietnam-US Dialogue Group Vo Quy, who represents Vietnamese scientists and a number of other Vietnamese witnesses, also provides testimony.

In an interview with Vietnam News Agency a week previously, Faleomavaega said: “I believe that in my home country, we have not properly addressed this issue of affecting the health of the people, not only Vietnamese people but many of our soldiers who were exposed to the Agent Orange and today we still have not known all the impacts yet... I think if our government did something that was wrong so we should have more obligations, that is a civilized country, a democratic country to correct the wrong and do something about it and we should not sit and pretend as if it never happened.” [See also 15-16 May]

4 June In Oregon, the Umatilla chemdemil facility commences its final destruction operation with the transport of bulk containers filled with mustard blister agent from storage. According to the Chemical Materials Agency, the operation is expected to take between one and two years. In a press release, the Agency notes that the facility previously completed the destruction of its VX nerve agent-filled M23 landmines [see 5 Nov 08]. Meanwhile, a delegation of OPCW officials visits the facility, two days after having undertaken a similar visit of the Pueblo facility in Colorado. The visit includes a tour of the facility by the delegation and a meeting with the OPCW inspection team that is deployed there.

4 June In Everett, USA, an FBI hazardous-materials team search a house for ricin a day after local police were alerted by a woman who reported finding a strange substance in her husband’s home office. On examining the substance, the police believed it to be ricin and so contacted the FBI. As regards any connection to terrorism, the *Everett Herald* quotes FBI spokeswoman Robbie Burroughs as saying: “A lot of people hear ‘ricin’ and they think terrorism... [That] isn’t the case here.” The *Herald* cites court documents as stating that Jeffery C Marble could have intended to use the ricin as a murder weapon as his wife reported an incidence of domestic violence three days previously and filed protection from her husband two days thereafter. Her petition reportedly included photocopies of handwritten notes that included the scientific names for ricin and lye, a corrosive agent.

Four days later, court documents are filed confirming that traces of ricin were found in Marble’s house and in his wife’s urine. The *Herald* quotes the eight-page affidavit as saying that during the past year Marble’s wife had suffered from an undiagnosed illness and that she believed her husband was trying to poison her.

5 June US Senator Richard Lugar announces that the Cooperative Threat Reduction programme will continue its efforts to eliminate WMD materials in Kazakhstan for another seven years [see also 10 Jan 08]. In a press release, he says the programme will also commence biological threat reduction efforts aimed at helping Armenia to meet the health standards of the World Health Organization.

7 June In the USA, Chairman and Vice-Chairman of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism Bob Graham and Jim Talent transmit to President Barack Obama a letter setting out proposals on implementing the findings set out in the Commission’s report [see 2 Dec 08]. The letter states: “[In its report,] the Commission unanimously concluded that, unless the world community acts decisively and with great urgency, it is more likely than not that a weapon of mass destruction will be used in a terrorist attack somewhere in the world by the end of 2013 – and that a biological attack is more likely than nuclear... The clock is ticking on that assessment. It is with this urgency that we write... [O]ne of the steps in your first 100 days was to create a WMD Proliferation and Terrorism Coordinator, which was one of our recommendations... However, this step is not enough to ensure that protecting the United States from WMD terrorism is a constant priority of the most senior officials in all branches of government... Our report strongly urged the appointment of a senior official with experience, visibility and the ability to speak directly for you on proliferation and terrorism... In light of the urgency of this threat, we respectfully encourage you to put Vice President Biden in charge of an aggressive and comprehensive campaign to meet the challenges of WMD proliferation and terrorism...”

You already know what he offers: long experience working on WMD, an understanding of how to move the levers of power to meet important goals, and most important, the unique credibility and stature of his office would signal that WMD issues will be a top priority... Though the bio-threat is urgent, there is no senior-level advocate for bio-preparedness in the Administration. Currently, there is a patchwork quilt of offices and agencies with more than two dozen presidentially appointed, Senate-confirmed individuals with some oversight responsibility but no single person in charge... Because no one was responsible, no one focused on this priority during the debate on the stimulus legislation in February. As a result, the government missed an opportunity to adequately fund several biopreparedness initiatives including the Biomedical Advanced Research Development Authority [...] one of the most important biodefense organizations in the United States... Today, the Administration is considering using funding for BioShield [...] to fund H1N1 vaccine production. Using BioShield funds for flu preparedness will severely diminish the nation's efforts to prepare for WMD events and will leave the nation less, not more, prepared... WMD terrorism is too important an issue to get lost like this in legislative or bureaucratic processes... Congress recently took the extraordinary action of extending the mandate of our Commission so that we can generate action on our recommendations. That is exactly what we will do. We intend to hold the government accountable by carefully observing the priority it gives to this issue and grading its progress in implementing the Commission's recommendations." [See also 22 Jan]

8 June In Ain Naadja, Algeria, military units from Algeria, Tunisia, Morocco and Libya commence exercises aimed at improving response to terrorist attacks involving chemical weapons or chemical related disasters. According to the Algerian newspaper *El-Khabar*, the exercises are complementary to exercises conducted by the same units four days previously [see 2-11 Jun]. In his statement to officially launch the exercises, Director of Security and Disarmament for the Algerian Foreign Ministry Nasma Baghli says: "No country or region is immune to such attacks or incidents. This compels us to upgrade the prevention and intervention capabilities in all countries." General Charif Zerad of the command force of the People's National Army is quoted by *El Khabar* as saying that Algeria organized the exercise after a team of Algerian experts had travelled to Serbia and the Czech Republic to receive the necessary training, which was made possible with funding from the European Union.

8 June In the UK, a court hears how a Muslim convert accused of planning to detonate a suicide bomb in a shopping centre in Bristol also expressed interest in biological weapons, so reports the *Bristol Evening Post*. Giving evidence at Winchester Crown Court, microbiologist Sarah Maddocks says that following one of her lectures in November 2007 AS level student Isa Ibrahim said he had "been reading books and he knew bacteria had been used to kill people" and had "asked which were the best sorts of bacteria and where they might be found and how they might be used". She adds that when "he used Anthrax as an example" she "answered his questions in the broadest terms". Maddocks, who formerly worked at Porton Down, tells the court that she subsequently discussed the matter with her husband Robert Hawkins, who is also a lecturer and who subsequently reported it to college authorities. Hawkins, who taught Ibrahim in AS level biology tells the court that Ibrahim's "questions were about bacteria and the history of bacteria usage" and that he "mentioned a book he was reading on Anthrax". According to the *Bristol*

Evening Post, when police raided his one-bedroom flat at Comb Paddock, Westbury-on-Trym, in April 2008, they found a biscuit tin containing a home made explosive, an electrical circuit with button detonator and a vest with panels at the front and back similar to those worn by suicide bombers.

8 June *The Washington Post* reports that the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism is opposing a request by President Barack Obama, made six days previously, for additional funding to prepare for a H1N1 virus pandemic, which would include taking nearly \$3 billion from the Project BioShield Special Reserve Fund [see 21 Jul 04]. The report comes a day after Commission Chairman Bob Graham and Vice-Chairman James Talent transmitted a letter to Obama, which stated: "Using BioShield funds for flu preparedness will severely diminish the nation's efforts to prepare for WMD events and will leave the nation less, not more, prepared [see 7 Jun]." According to the Center for Infectious Disease Research and Policy, in his letter to House Speaker Nancy Pelosi, Obama said he was requesting the funding "out of an abundance of caution" and appealed for "maximum flexibility" in how the funds are used. The *Post* quotes "Obama aides" as saying that the additional funding is being sought in case the virus mutates into a more lethal form. "Except in extraordinary circumstances, BioShield funds will not be accessed," Office of Management and Budget spokesman Kenneth Baer tells the *Post*. Six months previously, the Commission, which was established by Congress in 2007, released its report *World at Risk* [see 2 Dec 08].

8 June The US National Institute of Allergy and Infectious Diseases (NIAID) announces that it will grant \$455 million over five years in renewed funding for ten existing Regional Centers of Excellence (RCE) for Biodefense and Emerging Infectious Diseases Research and to Oregon Health and Science University to establish a new RCE based in the Pacific Northwest [see 30 Sep 03]. The centres are also expected to receive another \$20 million through the American Recovery and Reinvestment Act. In a press release, the NIAID says: "Among many projects, RCE researchers are developing new or improved ways to treat, diagnose or prevent illnesses including anthrax, West Nile fever, plague, dengue fever and other emerging infectious diseases. The RCEs also are prepared to provide scientific expertise to first responders in an infectious-disease-related emergency, whether such an emergency arises naturally or through an act of bioterrorism". The press release notes that the eleven RCEs are distributed across ten regions of the USA. The first eight were established in 2003; two more were established in 2005. Each RCE comprises a lead institution and affiliated academic institutions.

8 June In the USA (at least in the Washington DC area), PBS Television again [see 5 Feb 07] screens the one-hour documentary on the past US biological-weapons programme, *The Living Weapon*, produced by John Rubin.

8-11 June In Jyväskylä, Finland, there is the seventh *Symposium on CBRNE Threats*, the theme of which is 'meeting the future challenges' [see also 13-15 Jun 00 and 15-18 Jun 03]. The event, which is organized by the Association of Finnish Chemical Societies, aims to provide an interdisciplinary forum for discussions on issues related to protection against CBRNE threats for decision makers, experts, professionals, security officers, military planners and scientists in the fields of CBRNE defence and security. A total of fifty-two presentations are made during the course of the symposium, which comprises

sessions on the following: threat assessment/analysis and scenario and prevention; national and international co-operation; training and simulation; detection, identification and analysis; and protection and decontamination. The Finnish Defence Forces Technical Research Centre subsequently publishes proceedings of the symposium.

8-12 June In Kruševac, Serbia, there is another [see 2-6 Jun 08] training course in assistance and protection under the CWC, which takes place further to an offer made by Serbia under Article X. The course, which is jointly organized by the government of Serbia and the OPCW, aims to provide training in the following areas: planning and establishing a support team for the protection of civilian populations against chemical weapons; mounting rescue operations in contaminated areas; responding to incidents involving chemical-warfare agents; using individual and collective protective equipment; using monitoring, detection, and decontamination techniques; and taking samples.

10 June In Brussels, the European Commission transmits its *EU Strategy for the Baltic Sea Region* to the European Parliament, European Council, European Economic and Social Committee and the Committee of the Regions. The Action Plan includes efforts relating to the decontamination of shipwrecks and chemical weapons in the Baltic Sea, an 'action' which will be co-ordinated by Sweden. Each of the eight member states involved – Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden – will act as "co-ordinator" for one or more of the fifteen actions aimed at cleaning up the Baltic Sea, interconnecting power grids and transport networks, removing trade barriers and combating cross-border trafficking and organized crime. As regards chemical weapons dumped in the Baltic Sea, the 'strategic actions' require that countries implement actions to reduce hazardous substances, including the full implementation of the key directives and regulations relating to chemicals and several actions relating thereto contained in the Baltic Sea Action Plan of HELCOM [see 21 Dec 07]. The 'co-operative actions' include continuing the research on hazardous substances of specific concern to the Baltic Sea, given the need to improve further the knowledge basis, e.g., on their interaction and cumulative effects. Examples of projects to be undertaken include one by HELCOM member states to "reduce and restrict the use of the most hazardous substances" taking into account the objectives set into the HELCOM Baltic Sea Action Plan. Here, the focus should be on "the areas where the loads of hazardous substances and heavy metals have been identified as the most dangerous for the environment". Poland will lead another project to "assess the need to clean up contaminated wrecks and chemical weapons", where required to protect sensitive marine ecosystems, including through exchange of experiences (taking into account the work carried out within HELCOM). Activities here should "build on existing knowledge and mapping in the Baltic Sea" to "encompass identification of the current priority threats and establishment of the costs and benefits of any possible action through agreed research programmes". The development of major offshore infrastructure projects should also "take into account the location of underwater chemical weapon dumping sites".

10 June In the US House of Representatives, Government Accountability Office Director of Natural Resources and Environment Anu Mittal testifies before the Oversight and Government Reform Subcommittee on Federal Workforce, Postal Service, and the District of Columbia on *Environmental Contamination: Lessons Learned from the*

Cleanup of Formerly Used Defense and Military Munitions Sites. In his testimony, Mittal discusses GAO's past work relating to remediation efforts at formerly used defense sites and military munitions sites with a view to providing a context for issues at the Spring Valley site in Washington DC.

10-11 June In Makati City, the Philippines, the Association of South-East Asian Nations (ASEAN) Regional Forum (ARF) convenes for a meeting on biological threat reduction. The purpose of the workshop, which is co-hosted by the Philippines and the USA, is to identify national and regional actions to combat biological threats and to discuss global biological security issues as well as national and international efforts to mitigate biological threats. Attending the workshop are delegates from all twenty-seven countries making up the ARF, the ASEAN Secretariat, World Health Organization, Food and Agriculture Organization, Interpol, and the United Nations Office of Disarmament Affairs. Philippine organizations and institutions concerned with biosecurity participate as observers. The workshop is the first activity under the ARF Counter-terrorism and Transnational Crime Work Plan in the area of biosafety and bioterrorism. The ARF comprises the ten ASEAN members – Brunei, Cambodia, Indonesia, Laos Myanmar, Malaysia, the Philippines, Singapore, Thailand, Vietnam – and their dialogue partners. The dialogue partners are: Australia, Bangladesh, Canada, China, East Timor, the European Union, India, Japan, Mongolia, New Zealand, North Korea, Pakistan, Papua New Guinea, Russia, South Korea, Sri Lanka, and the USA.

Five weeks later, and a day before the annual meeting of the ARF, Kyodo news agency reports a strategy paper, which ministers are expected to adopt at the meeting, as showing that the ARF is considering new initiatives aimed at helping member states work together to combat terrorism and other criminal activities. Under the 'ARF Work Plan for Counterterrorism and Transnational Crime', ARF members would organize workshops, technical assistance, training courses and table-top exercises on counter-terrorism and international criminal activities, with future priority possibly being given to countering the threat from CBRN attacks. The paper calls on countries to increase their biological terrorism preparedness efforts and to better secure materials, equipment and knowledge that could support the development of biological weapons. It states: "The dual-use nature of biological science, for both peaceful and non-peaceful purposes must be addressed to both prevent bioterrorism and continue biological science development for peaceful purposes... This will also build safe, secure and sustainable capacity to combat infectious diseases, thereby meshing international security and public health priorities."

10-12 June In Canberra, Australia, there is an Asia-Pacific seminar on developments in chemical safety, security and chemical counter-terrorism, which explores relevant developments with a focus on scientific, technical and policy considerations. Participating in the event, amongst others, is the OPCW.

10-12 June In Hong Kong, there is a regional workshop for customs authorities in Asia and the Pacific on the technical aspects of the transfers regime of the CWC. The opening speech is given by OPCW Director-General Rogelio Pflirter. The aim of the workshop – which is organized jointly by the government of China, Hong Kong Special Administrative Region of China and the OPCW – is to familiarize senior customs officials with the requirements of the transfer provisions under the CWC and thereby supplement ongoing efforts to train mid-

level and operational-level customs officials through the sub-regional training courses offered in Asia. Amongst others, the workshop is attended by a representative of Myanmar, which is not yet a party to the convention.

11 June In Rome, Libyan leader Colonel Muammar Ghadaffi says Libya has not been sufficiently rewarded for its decision to abandon its weapons of mass destruction programme [see 19 Dec 03]. Addressing the Italian Senate, Ghadaffi says: "We cannot accept living in the shadow of intercontinental missiles and nuclear weapons, which is why we decided to change Route... We had hoped Libya would be an example to other countries... But we have not been rewarded by the world." [See also 11 Mar]

11 June In the US House of Representatives, Government Accountability Office Director of Natural Resources and Environment John B Stephenson testifies before the Science and Technology Subcommittee on Investigations and Oversight on *EPA [Environmental Protection Agency] Chemical Assessments: Process Reforms Offer the Potential to Address Key Problems*. The testimony sets out the findings from the GAO report on *Chemical Assessments: Low Productivity and New Interagency Review Process Limit the Usefulness and Credibility of EPA's Integrated Risk Information System* and GAO's preliminary evaluation of the revised Integrated Risk Information System assessment process EPA issued on 21 May 2009.

14 June In the UK House of Commons, the Foreign Affairs Committee publishes *Global Security: Non-Proliferation*. On issues pertaining to chemical and biological weapons, the committee heard testimony from Daniel Feakes, Harvard Sussex Program, University of Sussex; Brian Jones, visiting Senior Research Fellow, Mountbatten Centre for International Studies, Southampton University; and Nicholas Sims, Reader in International Relations, London School of Economics.

On chemical weapons, the report states: "We conclude that the relatively small number of States Parties which have comprehensively implemented the [CWC] is a matter of concern. We recommend that the Government should continue to put pressure on those states which have not implemented the Convention in full to do so... We conclude that the likely failure to meet the global 2012 deadline for destruction of chemical weapons stockpiles could erode the credibility of the [OPCW] and undermine progress towards elimination of chemical weapons... We further recommend that the Government should set out in its response to this Report what its position will be at the next [CWC] Conference in relation to the failure of any state to destroy its stocks of chemical weapons and in relation to the future priorities for the CWC once stockpiles have been eradicated... We conclude that the enforcement mechanisms of the [CWC] are yet to be fully tested. We recommend that the Government should continue to make representations to the new US Administration to rescind the Presidential veto over challenge inspections. We further recommend that the Government should commit to press for a new convention criminalising chemical and biological weapons at the individual level."

As regards biological weapons, the committee says: "We conclude that securing a verification protocol for the [BWC] should remain a key objective for the Government. We recommend that the Government should work to persuade the new US Administration that such a protocol for the Convention is essential. We further recommend that the Government should, in conjunction with other States Parties, explore ways in which the Convention can be strengthened by

other means until such time as a verification protocol can be achieved... We conclude that strengthening the [BWC] should be a priority for the Government in the absence of a verification protocol. We recommend that in its response to this Report the Government should comment on the specific suggestions aimed at achieving this end [...] and outline what measures it intends to pursue further at the Seventh Review Conference in 2011. The suggested measures include an Accountability Framework, Action Plan for Comprehensive Implementation, better collective scrutiny of developments in technology, an expansion of the role and staff of the Implementation Support Unit, formal annual meetings, work to refine and improve the Confidence-Building Measures, a consolidation agenda of politically-binding commitments agreed at earlier Review Conferences and criminalisation of biological weapons activities at the individual level."

On the question of "non-lethal" chemical and biological weapons, the report states: "We conclude that whilst general purpose criteria provide the means by which the [BWC] and [CWC] can keep pace with advances in technology, this is still an area which requires close attention. We recommend that the Government should set out its proposals for ensuring that the Conventions are able to keep pace adequately with future technologies, particularly in areas of overlap... We recommend that in its response to this Report the Government should set out its view on non-lethal agents such as herbicides, defoliants and incapacitating biochemical weapons and the status of such agents under the [BWC] and [CWC]. We conclude that there is a case for certain biological and chemical agents which are non-lethal or which target plants, including crops and vegetation, to be prohibited from use as weapons for the purposes of these Conventions. We further recommend that the Government should press for negotiations on an unambiguous prohibition of their use as weapons to commence at the next Review Conferences."

As regards the threat of terrorists using chemical and biological weapons, the report says: "We conclude that the Government is correct in its claim that the UK faces a significant threat arising from terrorist use of chemical or biological weapons, and to argue that at present this threat is greater than the threat that such weapons might be used against the UK by hostile states. We recommend that in its response to this Report the Government should set out what action it is taking to mitigate this threat."

On the G8 Global Partnership the committee states: "We recommend that, despite the current strains on its budgetary position, the Government should maintain its strong political and financial support for the Global Partnership, including the programme's geographical expansion and continuation beyond 2012. We further recommend that in its response to this Report, the Government should provide an update on plans for the Global Partnership beyond 2012."

On UN Security Council resolution 1540 [see 28 Apr 04] the committee says: "We recommend that the Government should work actively to ensure that the Resolution is implemented successfully by all UN Member States, providing practical assistance and resources where required."

As regards chemical and biological materials the report states: "We [...] recommend that in its response to this Report, the Government should set out the action that it is taking in this area, including its efforts to secure international co-operation, particularly to reduce biological and chemical security risks."

15 June The Moscow *Izvestiya* runs an interview with Lev Fedorov, of the Russian Union of Chemical Safety, on the chemical-weapons testing site at Kuzminki in Moscow [see 6 Mar 02]. Responding to questions from *Izvestiya* correspondent Bogdan Stepov, Fedorov says: "[At the site

they tested] yperite, phosgene, lewisite, hydrocyanic acid, and many toxic agents containing arsenic... In cooperation with the Germans a mini-factory to produce yperite was set up on Kuzminki. In July 1927 alone they produced three tons of this toxic substance... [Kuzminki was not the only place in Moscow where they produced toxic agents] ... The first yperite factory opened in the very centre of Moscow, behind what is now the Pekin Hotel, in the factory of the merchant Shustov who produced the famous cognac. There were three more factories: on Shosse Entuziastov, on Ugreshskaya Ulitsa, and on the Debenevskaya Quay. Later two scientific research institutes appeared where they developed chemical weapons, at 3 Bogorodskiy Val (the Military-Chemical Institute) and at 23 Shosse Entuziastov (the former chemical weapons factory, later GSNII-42). There was a chemical weapons warhead warehouse in Ochakov (1 Ochakovskoye Shosse), which in 1933 ceased operations with toxic agents, and it is these that are buried at the test site in Kuzminki... [An example of testing on animals at Kuzminki occurred] on 17 September 1926 at a site with cats and dogs they exploded howitzer shells with yperite. In 16 of 18 animals not only the skin but also the lungs were damaged. The weapons were tested on horses and even on camels... [Testing also took place] on volunteers and Red Army soldiers. There is a paper where officers of the chemical test range asked to grant personnel a monetary award, and to issue milk to the soldiers for injuries. They ran soldiers through a cloud of yperite. They dripped the toxic agents on the clothes and bodies of the volunteers... They closed the test site after the construction of the Moscow ring road, when the Kuzminki forest park became part of Moscow, in 1962. [A biological weapon was also tested at the site] in 1926-1927. They placed goats in the shelters where they exploded packets with a military, pulmonary form of anthrax. After a few days the goats died. They were buried at the same test site, in a deteriorated shelter not far from Ulitsa Golovacheva, at the current site of the Scientific Research Institute of Chemical Machine Building. They're probably still there... In 1937 they dug up 946 barrels of yperite and many munitions in several places. The military had compiled a list of the buried chemical weapons, but many weren't found. For example, they dumped 100 barrels of yperite in the lake next to the poultry market, and 24 were raised to the surface. The work was carried out in October-December. In 1938 they didn't continue the [cleanup] work."

15 June In the US House of Representatives, the Chemical Facility Anti-Terrorism Act of 2009 is introduced, the purpose of which is "to amend the Homeland Security Act of 2002 to extend, modify, and recodify the authority of the Secretary of Homeland Security to enhance security and protect against acts of terrorism against chemical facilities, and for other purposes".

16 June In Moscow, testifying before the Federation Council Defence and Security Committee on Russian implementation of the CWC during 2008, the Director for the Implementation of Convention Commitments, Ministry of Industry and Trade Viktor Kholstov says: "We are now implementing the third stage of the convention commitments to destroy chemical weapons, during which 5,000 tonnes of toxic substances housed in some 400,000 units of chemical munitions have to be eliminated in the Russian Federation in the course of 2009... In the course of 2008, we destroyed 5,970 t of toxic substances, which is in keeping with the programme schedule... The [federal] budget funds in 2008 amounted to more than R33 billion [\$1.06 billion], of which we spent over R24 billion through state capital investment." [See also 29 May]

16 June The US Department of Homeland Security Secretary Janet Napolitano announces that the department is to distribute \$1.8 billion in Federal Emergency Management Agency grants to "provide direct support for regional preparedness, urban security and medical response efforts in communities across the country" to increase their disaster preparedness resources. [See also 15 Nov 08]

16 June In Washington DC, there is a seminar at the Woodrow Wilson International Center for Scholars on *Going to Zero with WMDs: Lessons from the Chemical Weapons Convention*. Among those addressing the event, which is co-sponsored by the OPCW and Global Green USA, is OPCW Director-General Rogelio Pflirter. Pflirter later addresses an event at the Carnegie Endowment for International Peace on *WMD Threats and the Role of International Organizations*, which is also co-hosted by the OPCW and Global Green USA.

16 June The Chicago *Bulletin of the Atomic Scientists* publishes an article by OPCW Director-General Rogelio Pflirter and former President of the Soviet Union and President of Green Cross International Mikhail Gorbachev on disarmament lessons from the CWC. Amongst other things, they write: "Significant challenges remain to the complete abolition of chemical weapons. Seven countries remain outside the convention, including several suspected of having active chemical weapons programs. The United States and Russia will both need to accelerate their efforts in order to meet the convention's legally binding deadline of April 2012 for completing stockpile destruction. And advances in science and technology pose constant challenges to the effectiveness of the OPCW's industrial inspections regime... World leaders should not see the virtues of the CWC as a panacea for nuclear and biological weapons, which have different strategic and technical dimensions. But the convention has demonstrated that given the political will, eliminating weapons of mass destruction in an equitable and verifiable manner is feasible."

17 June In Maryland, deputy commander of the US Army Medical Research Institute of Infectious Diseases Mark Kortepeter says that an inventory of agents at Fort Detrick has found that more than 9,200 vials of material were unaccounted for in laboratory records. The inventory, which commenced on 4 February and concluded on 27 May, was ordered by the Army after twenty samples of Venezuelan equine encephalitis were found in a box of vials listed as containing sixteen [see 6 Feb]. In a telephone interview with reporters, Kortepeter says the vials in question – which amount to around thirteen percent of the total – contained, amongst other things, Ebola virus, anthrax bacteria, tularaemia bacteria, botulinum toxin and Venezuelan equine encephalitis virus. *The Washington Post* quotes unidentified "officials" as saying that some serum samples from hemorrhagic fever patients dated back to the Korean War. Kortepeter is quoted by Global Security Newswire as saying: "I can't 100 percent say nothing [left the facility] but I think the bottom line [is] we did have a lot of buffers to prevent anyone who shouldn't be in the laboratory from getting in in the first place and then preventing them taking something out with them." The Associated Press quotes Kortepeter as saying that about half of the unaccounted-for stock, most of which was left behind in freezers by former researchers at Fort Detrick, has now been destroyed, whilst samples deemed potentially useful have been kept. He adds that the inventory found nothing missing from about 70,000 items the institute began cataloguing in 2005. USAMRIID Inventory Control Officer Sam Edwin is quoted by Global Security Newswire as saying that in future researchers will

conduct an annual audit of material and whenever they use an agent in the inventory they will have to place a 'comment' in a laboratory notebook on when they took the sample and how the material is to be used. In addition, records will have to be kept on how much material is used, and any remaining material must be returned and logged in the notebook. The notebooks will be audited on a quarterly basis by the USAMRIID Biosurety Office.

18 June From Seoul, South Korea, and Brussels, Belgium, the International Crisis Group releases *North Korea's Chemical and Biological Weapons Programs*. The report, which is based on open source literature, interviews and unpublished documents, examines North Korea's chemical and biological weapons capabilities in the context of its military doctrine and national objectives. It states that North Korea may opt to use its chemical weapons against South Korea in the event of a military conflict between the two countries. North Korea, it says, is believed to hold between 2,500 and 5,000 tons of chemical weapons including mustard, phosgene, blood agents, sarin, tabun and V-agents and would be able to deploy them via missile strikes on Seoul and other South Korean locations. The report says that although North Korea's chemical weapons programme goes back decades its stockpile "does not appear to be increasing, but is already sufficient to inflict massive civilian casualties on South Korea". It notes North Korea's efforts towards establishing a biological-weapon capability, but doubts whether such a programme is currently viable. It concludes thus: "North Korea's chemical and biological weapons programs pose serious security threats that require immediate and sustained international efforts to eliminate them. [Its] chemical weapons arsenal is sufficient to cause huge civilian casualties in South Korea. The evidence of the arsenal seems irrefutable, but Pyongyang denies the existence of any chemical or biological weapons programs. The Group also releases a separate report on North Korea's missile capability. The Group, which was founded in 1995 as an international non-governmental organization, describes itself as being "generally recognized as the world's leading independent, non-partisan, source of analysis and advice to governments, and intergovernmental bodies".

18 June At UN headquarters, OPCW Director-General Rogelio Pflirter addresses the Counter-Terrorism Committee, established by Security Council resolution 1373 [see 28 Sep 01].

18 June In the USA, a man pleads not guilty to a series of charges that include planning to kill his wife with tetrodotoxin with a view to obtaining \$20 million in life insurance money, having previously been charged with, amongst other things, the illicit purchase of the toxin [see 30 Jun 08]. According to the Associated Press, the indictment alleges that in February 2008 Edward Bachner spent \$40,000 on a \$20 million life insurance policy with the intention of killing his wife and collecting the proceeds. It also alleges that Bachner ordered 98 milligrams of the toxin, which comes from the pufferfish, only four milligrams of which is sufficient to kill a person. According to the Courthouse News Service, when Bachner told Ascent Scientific, a pharmaceutical company, that he "needed the drug quickly for marine antitoxin research purposes", an employee immediately contacted the FBI. The News Service notes that "the ten counts in the original indictment include possession of a biological agent to use as a weapon and possession without a justified purpose".

18-19 June In Oslo, Norway, there is an international workshop on *The Biological Weapons Convention Supporting Global Health: Reducing Biological Risks by Building Capacity in Health Security*. The event – which is co-hosted by Norway, Indonesia, and the BWC Implementation Support Unit (ISU) – builds on the findings of a previous regional seminar on promoting and implementing biosafety and biosecurity management, held in Indonesia in June 2008. In total, more than 70 representatives from 25 countries participate in the workshop. Substantive contributions are made by the World Health Organization, the World Organisation for Animal Health, the Food and Agriculture Organization, the ISU, the European Union, national experts and the private sector.

18-24 June In Guilin, China, there is an exercise aimed at improving cooperation between the Chinese and Singaporean armed forces in counter-terrorism activities, including responding to attacks involving the use of chemical and biological weapons. According to Xinhua news agency, exercise 'Cooperation 2009' is the first joint operation between the two armies since the two countries signed a bilateral agreement in January 1998 on co-operation in matters of defence and security. Xinhua quotes Deputy Director of Foreign Affairs at the Defence Ministry Major General Jia Xiaoning as saying that "sharing radioactive, biological and chemical defense practices could greatly improve the military's ability to deal with more unconventional security threats".

21 June *The (London) Observer* reports having seen a confidential memorandum in which the policy advisor of former UK Prime Minister Tony Blair records a meeting between the then US President George Bush and Blair in which both leaders set out their intention to invade Iraq in the event that a second United Nations resolution was not forthcoming. In the five-page memorandum, dated 31 January 2003, Sir David Manning records how Bush told Blair – during a meeting at the White House with six other senior officials – that he had decided on a start date for the war. The memorandum – which was copied to Sir Jeremy Greenstock, the UK ambassador to the United Nations; Jonathan Powell, Blair's chief of staff; Admiral Lord Boyce, chief of the defence staff; and Sir Christopher Meyer, the UK's ambassador to Washington – also states: "The start date for the military campaign was now pencilled in for 10 March. This was when the bombing would begin." At the meeting, Bush also told Blair that the USA had drawn up a plan "to fly U2 reconnaissance aircraft painted in UN colours over Iraq with fighter cover" and that were Iraq to open fire at them this would put it in breach of UN resolutions. Bush also expressed hopes that an Iraqi defector would be "brought out" to give a public presentation on Iraqi WMD or that someone might assassinate Saddam Hussein. The memorandum further notes Blair as telling Bush that he was "solidly with the President and ready to do whatever it took to disarm Saddam". The *Observer* notes that though Blair was widely thought to have tried to use the meeting to get the invasion of Iraq delayed until April, the memorandum shows that military planning was by this time already at an advanced stage and that Bush had told Blair that 1,500 targets had already been selected for bombing, with a date therefore set for 10 March. The *Observer* also reports that Blair urged Prime Minister Gordon Brown to hold the recently announced inquiry into the Iraq war [see 25 Mar] in private as Blair feared he would otherwise be subjected to a "show trial". Blair's opinions on the matter were reportedly communicated through others to Sir Gus O'Donnell, the cabinet secretary, who then conveyed them to Brown in the days leading up to the announcement that the inquiry would be held in private.

21 June In the UK, a historian has uncovered evidence that in the 1940s a Soviet agent was “leaking like a sieve” classified information on atomic weapons research from a factory originally established to manufacture chemical weapons, so reports BBC News Online. The Rhydymwyn Valley Works, now a nature reserve, reportedly manufactured around 40,000 chemical weapons shells per week during the Second World War [see also 23 May 06], before conducting work into producing weapons-grade uranium under the ‘Tube Alloys’ project in 1942. According to Colin Barber, “all the documentation shows [Klaus Fuchs] was leaking information from day one of his time as a scientist in the UK... And that includes his time here at the Valley Works.” Barber says Fuchs came to the UK in the 1930s owing to his communist beliefs. He subsequently obtained a PhD in Physics at the University of Bristol and in 1942 was granted British citizenship and also signed the Official Secrets Act. He worked for over a year at the Works on highly sensitive research into the manufacture of weapons-grade uranium. After leaving Wales in 1943, Fuchs went to the USA to work on the Manhattan Project. In 1950 he confessed that he had spied for the Soviet Union and was sentenced to fourteen years imprisonment.

22 June In India, the government of the state of Maharashtra announces that it has established a committee under the Industries Department Principal Secretary to deal with terrorist attacks involving the use of chemical weapons. It also says it will establish two more committees to deal with attacks involving biological and nuclear weapons.

22-23 June In Jahorina, Bosnia and Herzegovina, there is an international seminar on national implementation of non-proliferation obligations and the role of the OPCW in providing assistance in national implementation of the CWC. The purpose of the seminar, which is jointly organized by the government of Bosnia and Herzegovina and the OPCW, is to explore ways to facilitate co-operation between countries in the western Balkans to eliminate the threat of WMD proliferation and related terrorism in the region, and to foster closer cooperation between interested parties and Bosnia and Herzegovina to strengthen the implementation efforts of Bosnia and Herzegovina. It also aims to further the development of a comprehensive national strategy for Bosnia and Herzegovina to strengthen its capacity in dealing with WMD non-proliferation and counter-terrorism. The event brings together representatives of governments in the region, as well as from relevant international organizations that are engaged with Bosnia and Herzegovina in this area of work. Representatives of academia and chemical industry also participate. Among those addressing the seminar are Bosnia and Herzegovina Foreign Minister Sven Alkalaj and OPCW Director-General Rogelio Pflirter.

22-24 June In Sopot, Poland, a regional experts meeting of the Proliferation Security Initiative takes place. [See also 12-14 May]

22-26 June In Spiez, Switzerland, there is a training course on protection against chemical weapons at the NBC Training Centre for specialists who are, or will be, associated with the training of civilians in their home countries in protection against chemical weapons. The event, which takes place further to an offer made under Article X of the CWC, is jointly organized by the OPCW and the government of Switzerland. Its main objective is to help CWC parties establish a basic capability in this area that will directly benefit their civilian populations. [See also 16-20 Mar 09]

24 June In Brussels, the European Commission adopts a policy package on chemical, biological, radiological and nuclear (CBRN) security, which includes a three-year action plan on countering CBRN threats. The action plan, which is annexed to the communication from the European Commission to the Council and the European Parliament on *Strengthening Chemical, Biological, Radiological and Nuclear Security in the European Union*, comprises 132 measures, many of which are preparatory action. The measures focus on the following three areas: ensuring that unauthorised access to CBRN materials of concern is as difficult as possible; having the capability to detect CBRN materials; and the ability to respond efficiently to incidents involving CBRN materials and recover therefrom as quickly as possible. The core elements of the CBRN Action Plan are: using a risk-based approach to CBRN security in the European Union leading to a prioritization of efforts on issues of highest concern; ensuring that CBRN materials are well protected and the potential for them being lost or stolen is limited; strengthening the exchange of information between member states on CBRN security issues; improving the use of detection systems across the European Union; and providing responders with the necessary tools to save lives and limit damage to property in case of CBRN incidents. Member states will discuss the plan in the Council in the second half of 2009 and, provided that agreement is reached, implementation of the plan could commence in 2010. Xinhua news agency quotes European Commission Vice-President Jacques Barrot as saying: “This CBRN package is an important and timely initiative. Terrorist groups acquiring weapons of mass destruction, including CBRN materials, is the most frightening scenario... Although Europe has fortunately not seen a large scale attack using these materials, the seriousness of the potential consequences for our societies is such that we cannot be complacent.” According to Xinhua, the European Commission plans to allocate up to EUR 100 million to support the implementation process from 2010 through 2013. The action plan is based on the 264 recommendations contained in the final report of the CBRN Task Force, which was issued in January 2009. The Task Force was established by the European Commission in February 2008 with a view to identifying areas in which further work would be needed in order to lower the risk of security incidents involving CBRN materials within the European Union.

24 June Former Iraqi leader Saddam Hussein told US interrogators in 2004 that had Iraq not “destroyed” its WMD long before the US-led invasion of Iraq [see 20 Mar 03], he “would have used them in the fight against the US”, so reports the *New York Daily News* referring to “recently acquired” FBI records obtained under the Freedom of Information Act. According to the records of the interrogation, Hussein had maintained that Iraq still possessed WMD as a deterrent on the grounds that he was uncertain how Iran would react if UN inspectors revealed that Iraq had no such weapons. Such was his concern, that the report from the interrogation notes him as saying that “Iraq would have been extremely vulnerable to attack from Iran and would have sought a security agreement with the US to protect it from threats in the region”. Asked about his relationship with Osama bin Laden, Hussein referred to him as a “zealot”, pointing out that by allying himself with bin Laden he himself may have ended up becoming a target. Stressing that the two had never met, Hussein noted that a more likely partner “would have been North Korea”.

Three weeks later, *Gulf News* transcribes one of the transcripts of the interrogation in which Saddam Hussein is asked whether Iraq used chemical weapons against Iran out

of necessity. He responds thus: "I do not have an answer for that. I am not going to answer... I will not be cornered or caught on the same technicality. It will not do you any good."

25 June In Geneva, there is an international policy workshop on *The Safety and Security of Biotechnology*. The event is jointly organized by the Geneva Centre for Security Policy and the Managing Global Insecurity project, and is funded by the governments of Norway and Switzerland. The purpose of the workshop is to enable international experts to pursue direct dialogue with policymakers on raising awareness about the threat that comes with advances in biotechnology, and strengthening multi-stakeholder and international co-operation to assess and respond to the threat. In this regard, a series of recommendations are formulated to improve existing national and multilateral regulations and structures. The Managing Global Insecurity project is jointly managed by the Center for International Security and Cooperation, Stanford University; the Brookings Institution; and the Center on International Cooperation, New York University.

26 June Russian Deputy Head of the Federal Department for Safe Chemical Weapons Storage and Disposal Nikolai Khlebnikov says Russia has increased security at its chemdemil facilities. Speaking to Interfax-AVN military news agency Khlebnikov says: "Military guards and paramilitary security units with special gear and guard dogs will be in charge of our facilities. All posts have engineering infrastructure at their disposal and are prepared for perimeter defence. Also, anti-terror forces, armed with automatic weapons, grenade launchers and sniper rifles, have been formed to tighten the defense in line with the General Staff's instruction... Unauthorized crossing of the guarded perimeter and entry into the storage facilities filled with toxic agents is ruled out."

26 June In Trieste, Italy, on the sidelines of a meeting of foreign ministers of the G8, Canadian Minister of Foreign Affairs Lawrence Cannon announces that Canada is to contribute CA\$180 million (\$156 million) to fund new projects under the Global Partnership [see 26-27 Jun 02]. The amount earmarked includes CA\$3.8 million to the design of a biological containment facility to be built in Bishkek, Kyrgyzstan, which will serve as the central repository for the consolidation of dangerous pathogens from several facilities across the country. Also included in the package is CA\$33.6 million for activities related to the redirection of former weapons scientists in Ukraine, Russia and elsewhere in the former Soviet Union. Cannon also states that the programme is to be expanded beyond the former Soviet Union. In a press release, the Canadian Ministry of Foreign Affairs and International Trade states that Canada has now pledged CA\$1 billion (\$868 million) to the Global Partnership over the past ten years, of with to date it has spent more than CA\$526 million [see also 23 Nov 06].

26 June In Brussels, the Council of the European Union adopts its latest [see 9 Dec 08] six-monthly progress report on the implementation of the EU Strategy Against the Proliferation of Weapons of Mass Destruction, which covers activities carried out during the first half of 2009. Amongst other things, the report states: "The EU has successfully inserted a WMD clause in relevant agreements with several countries, including China and Central American States... The new, additional financial instrument ('Stability instrument') which allows for the financing of certain WMD related projects is gradually being used [see 8 Apr]. The Annual Action Programmes 2007 and 2008 of the Stability Instrument have been launched. A total of EUR 51.5 million have been allocated to projects combating proliferation of CBRN material that may

be used in WMD, including fighting illicit trafficking, increasing bio-safety and bio-security, and supporting the redirection of scientists previously involved in WMD activities. A new Indicative programme for the period 2009-2011 has been adopted and the Annual Action Programme 2009 is under preparation. Innovative actions such as the support to the Multilateral Nuclear Assurances and the creation of CBRN Centres of Excellence have been included... A large project focusing on bio-safety/biosecurity is foreseen in Central Asia for a total of EUR 6.8 million to be implemented using ISTC [International Science and Technology Center, Moscow] management capacities in the framework of the Stability Instrument. [See also 24 Jun]

26 June In the UK, the National Archives makes public documents showing that the UK considered attacking Tokyo with chemical weapons in mid-1944. According to Agence France-Presse, a Chemical Board note marked "secret" and signed by E E Haddon, Secretary, states: "In his report on his discussions in America... Major General Goldnoy suggested that it might be worthwhile attempting to assess the probable effects of a C.W. (chemical weapons) bombing attack on Tokyo... Particulars of the population and layout and photographs of typical buildings and areas in Tokyo were kindly provided by the Director of Military Intelligence, War Office and those have now been studied by Professor [David] Brunt." In a memorandum attached to the document Brunt suggests that once the buildings in Tokyo had been destroyed by bombing, a gas attack on the "more modern type of streets" could commence with for example phosgene or mustard gas. However, he notes that "in the densely built areas of Japanese-type buildings, where the streets are narrow, the flow of a gas cloud would be hindered by the narrowness of the streets". Amongst other things, the memorandum concludes that the "persistent danger from mustard would only be achievable in the intervals between the summer rains". It adds that "if mustard were used and it produced the effect of driving the population away from the densely built areas, attack with incendiaries should follow a few days later".

Another document marked "most secret" reveals that between 1941 and 1944 scientists at Porton Down tested the use of poisoned darts that carried poison in grooves to the head which could be dropped over enemy territory in their thousands by cluster bombs. *The (London) Guardian* notes that the document – entitled 'research into the use of anthrax and other poisons for biological warfare' – does not name which poison was to be used, only describing it as T1125, a synthetic urethane. [Note: T1125 was the Porton symbol for the methiodide salt of *m*-dimethylaminophenyl N-benzylcarbamate, which was one of the 'Haworth compounds' and whose subcutaneous lethality in mice and rabbits somewhat exceeded that later found for the German nerve-gas tabun.] It states that the logistics of producing 30 million darts in the USA was investigated and pronounced feasible. According to *The (London) Independent*, the researchers, working in conjunction with Canadian colleagues, developed a dart weighing no more than four grams which could be loaded into bombs carrying 30,600 of the projectiles at a time. They carried out multiple tests and calculations – using sewing machine needles as prototypes – and determined that the success rate of striking enemy troops ranged from ninety per cent for striking a soldier lying flat on open ground to a seventeen per cent chance for one lying in a slit trench. A memorandum written in 1945 summarizing the project says: "The use of poison enables a much lighter dart to be used, since a slight penetration without necessarily piercing a vital organ is all that is required to implant the poison ... It seems most unlikely that any first aid measure or medical treatment could be devised which would prevent

the death of a man who has received a lethal dose.” The *Independent* notes that the darts, however, never made it into mass production. Noting that the projectiles were useless against any form of cover, a senior officer wrote them off as “highly uneconomical” and unlikely to cause mass casualties.

The (London) Times reports another document made public by the National Archives, that shows how, in 1943, the Ministry of Food and the Ministry of Home Security held fifteen seminars across the country to demonstrate to civilians how to decontaminate their food in the event of a mustard gas bombing. Amongst other things, cheese, tinned food, potatoes, flour, tea and meat were put in a “gas chamber” and exposed to mustard gas for two hours. The food was then put through a decontamination process. Items were bleached, hosed with water and aired for twenty-four hours until deemed fit for consumption. Twenty-two civilians and three officials from Porton Down suffered side-effects from exposure to mustard gas during the seminars. The report said that such casualties were “not a bad thing” because they highlighted the need for care when handling mustard gas. The document states that overall, the tests demonstrated that up to ninety per cent of foodstuffs could be decontaminated.

27 June In Bangladesh, Deputy Leader of the House Syeda Sajeda Chowdhury claims that “poison-mixed food” was served to Awami League chief Sheikh Hasina while in prison during the rule of the previous caretaker government. However, *The Daily Star* notes that no other member of the government has made such a claim, including Hasina herself. According to the *Star*, Hasina was arrested on 16 July 2007 on graft charges and was freed on bail on 12 June 2008. Speaking at a press conference the following day, Bangladesh National Party Standing Committee Member Khandaker Mosharraf Hossain says the party also suspects that the food was served to their party Chairperson Khaleda Zia while detained in the same prison.

27 June In Hawaii, the US military discover a World War I-era liquid-filled Stokes mortar round containing phosgene while excavating ground on the firing range at the Schofield Barracks. According to the *Honolulu Advertiser*, the round was discovered in the same area as seventy-one unexploded chemical munitions containing phosgene and chloropicrin found between June 2004 and September 2006 during the upgrading of a training range [see 2 Feb 06 and 31 Jul 08].

28 June *The (London) Guardian* runs an interview with the former colleague of Rafid Ahmed Alwan – otherwise known as Curveball – at the Saad State Company for Housing and Construction. According to the *Guardian*, Abdul Salam Jeber spent three months in US custody as a result of Curveball providing detailed information about several facilities in Iraq that masqueraded as agricultural plants, including the al-Hakem where Jeber worked. Jeber says: “They were expecting to find information about fermentation projects for bacterial weapons. I was the chief of the fermentation section of the company at the time... I know exactly what all the facilities were used for and there was no dual purpose for any of them... The Americans interrogating me didn’t understand that if a project like that was to be started, a minimum of 200 people would know about it; there would be technical reports, chemical process designs, mechanical design, installation, then operation. Any one of the 800 employees in Saad Company may well have known about it.” Jeber says that he estimates he was interrogated on at least fifty occasions and was always asked the same questions. He says: “I now know that the 15 July date they kept talking about was a date in which Rafid had told them about an important moment in the so-called

dual purpose facility. They also asked me about the three tucks that he talked about.” The *Guardian* reports that Jeber was given \$1,000 and released in September 2003. [See also 10 Oct 08]

29 June In Washington DC, during a discussion at the Heritage Foundation, Co-Chairman of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism Bob Graham says that “the thing that has kept us from a biological weapon thus far has been the unreliable defense of ignorance”. [See also 8 Jun]

30 June In Russia, Green Cross International closes three of its offices that perform community outreach functions with regard to the Shchuchye chemdemil facility. According to Global Security Newswire, the day after the opening ceremony for the first building [see 29 May], the facility’s project manager told Cooperative Threat Reduction officials that all outside public outreach programmes should be concluded by the end of June and that Russia would then assume such efforts. Head of Security and Sustainability for Global Green USA, Paul Walker, says: “It’s the shot across the bow that they’re going to miss 2012, they just haven’t said so publicly... They understand the pressure they’re under and they’re reluctant to have any complications at this point... In order to gain time they have to speed up the program and that means less oversight.” The US company Parsons Corporation – which for the past decade has managed all US projects for the facility, including site clearing, engineering and planning and construction – had employed Green Cross as a subcontractor. Global Security Newswire quotes Walker as saying that Parsons informed Green Cross that it had to shut down its three offices and lay off its ten local employees by 30 June. That date, he says, coincided with the expiration of the Green Cross contract with Parsons for the public outreach offices. Meanwhile an unidentified “congressional aide” is quoted by Global Security Newswire as saying: “Parsons’ contract ended [on June 30] and Global Green was part of that contract... There’s no doubt the site has been controversial but at the moment Russia seems committed to this.”

30 June The Dutch Supreme Court dismisses an appeal by Dutch businessman Frans van Anraat against his conviction for complicity in violating the rules of war by having supplied Iraq with chemicals that it used against its Kurdish population and Iran [see 2 Apr 07]. The court, however, reduces van Anraat’s sentence of seventeen years imprisonment by six months owing to the case having taken an unusually long time to process. According to the Associated Press, it also rejects a compensation appeal filed by sixteen victims on the grounds that it was too complicated. Presiding Judge Leo van Dorst says: “The suspect knew [...] the [thiodiglycol] he was delivering was being used for mustard gas... [He] knew that the poison gas would be used in the (Iran-Iraq) war.”

30 June In London, the Institute for Public Policy Research (IPPR) releases the final report of the IPPR Commission on National Security in the 21st Century on *Shared Responsibilities: A National Security Strategy for the United Kingdom*. The report, an interim version of which was released seven months previously [see 27 Nov 08], sets out a list of 109 recommendations that the government should take, including the following four relating to chemical and biological weapons: “(1) The UK government should use the period leading up to the 2011 Review Conference of the BTWC to push for the creation of an effective verification mechanism for this treaty and to improve the monitoring of state compliance with its terms; (2) The Government should take steps to restart

stalled negotiations on the establishment of Organisation for the Prohibition of Biological Weapons, similar in structure to the OPCW...; (3) The Government should use its position as a Depository State for the BTWC to take the lead in developing programmes to educate individual scientists about the potential security implications of their work; (4) the Government should work with other major powers to eliminate the loopholes related to law enforcement in the CWC, which have encouraged some states to develop new and incapacitating chemical agents based on advances in neuroscience.”

1 July From London, the Saudi-owned Elaph website publishes details of an interview of former Iraqi leader Saddam Hussein by Iraqi National Security Adviser Muwaffaq al-Raubay'i in which Hussein reportedly said it was Iran that killed 5,000 Iraqi civilians with chemical weapons. No mention is made of the place and date neither of the killings nor of the interview of Hussein. [See also 24 Jun]

4 July The US Army announces its having recently completed a two-week exercise with federal, state and local officials in Wisconsin, which was the largest WMD preparedness exercise conducted by it to date. Participating in exercise 'Red Dragon' – which simulated a variety of situations throughout the southern part of the state – were more than 2,300 Army reserve soldiers belonging to specialized units trained to deal with WMD. A number of federal agencies also participated in the exercise, including the Federal Bureau of Investigations, the Federal Emergency Management Agency, the Department of Health and Human Services, the Defense Threat Reduction Agency, the Coast Guard, as well as local police, fire fighters, hospital staff and government personnel.

5 July The Indian Army has ordered eight NBC Reconnaissance Vehicles, which are built by the Defence Research and Development Organisation (DRDO), so reports PTI news agency, quoting unidentified “DRDO officials”. PTI quotes the officials as saying that the vehicle will cost the Army a quarter of the price of a similar imported type. “India is now almost self-reliant for equipment and products relating to the strategic area of NBC protection,” the officials are quoted as saying. The first vehicle was handed over to Army on 27 June.

Two weeks later, Director-General of Ordnance Factories and Chairman of the Ordnance Factory Board Saroj Vinayek announces that the Medak ordnance factory will increase the number of amphibious infantry combat vehicles it produces following a request by the Army for around two hundred of them. *The Hindu* newspaper quotes a “senior official” of the factory as saying that the vehicles are, amongst other things, equipped with filters to protect against chemical, biological or nuclear attacks. He adds that there are plans to modernize the filter.

7 July The US Government Accountability Office transmits to Congress *Biosafety Laboratories: BSL-4 Laboratories Improved Perimeter Security Despite Limited Action by CDC* [Centers for Disease Control and Prevention]. The report provides an update on actions taken by the CDC to address the recommendation made by the GAO last year [see 17 Sep 08] that CDC implement specific perimeter controls for the five US BSL-4 laboratories; determines whether perimeter security controls at the two deficient laboratories have improved since that time; and sets out other observations about other BSL-4 laboratories assessed by the GAO. Amongst other things, the report states: “Although CDC has taken limited action to address our original findings [on how to

improve perimeter security controls for all BSL-4 laboratories], the two deficient BSL-4 labs have made progress on their own. One BSL-4 lab made a significant number of improvements to increase perimeter security, thus reducing the likelihood of intrusion. The second made three changes and formed a committee to consider and prioritize other changes.” While the report does not identify the laboratories in question, the Associated Press reports having previously identified the first facility as being Georgia State University, Atlanta, and the second as the Southwest Foundation for Biomedical Research, San Antonio [see 17 Sep 08].

8 July In Washington DC, the New America Foundation convenes a discussion meeting on *Strengthening the Biological Weapons Convention*. The featured speakers are Piers Millett of the BWC Implementation Support Unit and Paul Walker of Global Green USA.

8 July US Department of Defense (DoD) Comptroller Robert Hale makes a formal request to four congressional defence committees for permission to transfer around \$68 million in the DoD's budget for aircraft deployment to instead accelerate by three years the deployment of a 'Massive Ordnance Penetrator', so as to ensure that the first four bombs could be mounted on B-2 bombers by July 2010 [see also 15 Sep 08]. According to Bloomberg, the 30,000-pound bunker-buster bomb would be the US military's largest as the Air Force currently uses a 5,000-pound bunker buster “to attack deeply buried nuclear, biological or chemical sites”. The bomb is 20.5 foot in length, carries more than 5,300 pounds of explosives and is guided by Global Positioning Satellites.

8 July In the USA, scientists at North Carolina State University have developed a UAV based on a bat – using a lightweight skeleton, mechanical “muscle” system and flapping wings – for the military to monitor movements on the ground and detecting biological weapons, so reports the London *Daily Telegraph*. The solar-powered, self-guiding “micro-aerial vehicle” is also about the size of a bat. Speaking to the *Telegraph*, designer Stefan Seelecke says: “We have used a shape-memory metal alloy that is super-elastic for the joints... The material provides a full range of motion, but will always return to its original position – a function performed by many tiny bones, cartilage and tendons in real bats.”

9 July In L'Aquila, Italy, on the second day of a three-day summit, the leaders of the G8 issue a joint statement on WMD non-proliferation. The statement reads thus: “The universalization and reinforcement of the non-proliferation regime remains an urgent priority. We call upon all States still not party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the [CWC] and the [BTWC] to accede without delay... We call upon all States to fully implement UNSC Resolution 1540 on preventing non-State actors from obtaining WMDs, their means of delivery and related materials... We welcome the ongoing progress under the CWC and BTWC and highlight the vital importance of the full and effective implementation of both Conventions... The threat of terrorists acquiring WMDs continues to be cause for deep concern. We are determined to continue working together to ensure that terrorists never have access to those weapons and related materials... We maintain our support for the Proliferation Security Initiative, which plays an important part in preventing and countering proliferation of WMD, their delivery systems and related materials... In parallel with the implementation of ongoing priority projects in Russia and Ukraine, to which we fully reconfirm our commitments, we are discussing the options for the [Global] Partnership's [see 26-27 Jun 02] further

expansion by engaging potential new participants, including CIS countries, committed to the Kananaskis Principles and Guidelines... The G8 is also ready to include new fields of cooperation in areas where the risks of terrorism and proliferation are greatest. To prevent global WMD knowledge proliferation, particularly through collaboration with scientists, we welcome the Recommendations for a coordinated approach in this field.”

10 July In Japan, two support groups for the victims of crimes committed by the Aum Shinrikyo cult [see 17 Jul 00, 28 Jun 04 and 20 Mar 95] announce that a splinter group of the cult has agreed to assume liability for paying compensation to the victims and their families. The two groups – one led by Kenji Utsunomiya and the other by Saburo Abe – reached an agreement with the Hikari no Wa (Circle of Rainbow Light) group, led by former senior Aum member Fumihiko Joyu after complications arose during attempts to reach an agreement with the main group, which in 2002 was renamed Aleph [see also 22 Dec 07]. Joyu and his followers left Aleph in 2007 to launch the Hikari no Wa group. According to Kyodo news agency, Hikari no Wa is liable to pay around 2.1 billion yen, plus an unknown amount of damages in lawsuits filed by victims of Aum’s crimes. At a press conference, Abe, who served as Aum’s bankruptcy administrator, says that though the amount of payment by Hikari no Wa is small, he regards the group’s agreement as indicating its remorse to the victims and its departure from the Aum cult. [See also 22 Jan]

10 July The *New York Daily News* reports Osama bin Laden’s son as saying that as a child he wept when his father took his dogs away to be used in chemical warfare experiments. The statement is made in a book, *Growing Up Bin Laden*, written by Omar’s mother and Osama bin Laden’s first wife, Najwa, which is due to be released by St Martin’s Press later this year. “After I learned the truth about the puppies, I turned even further away from my father,” Omar is quoted as saying.

12 July The (London) *Mail on Sunday* reports that a group of thirteen doctors are to mount a legal challenge to demand a formal inquest into the death of Dr David Kelly [see 17 Jul 03] on the grounds that the Hutton Inquiry’s finding of suicide was erroneous as a cut to his ulnar artery could not have caused death [see 28 Jan 04]. Previously Lord Chancellor Lord Falconer had applied the Coroners Act to designate the Hutton Inquiry as fulfilling the function of an inquest. The doctors will also send their twelve-page opinion, a copy of which *The Mail on Sunday* reports having seen, to Sir John Chilcot, the chairman of the committee investigating the circumstances leading up to the Iraq War [see 25 Mar]. The opinion is quoted by *The Mail on Sunday* as saying: “The bleeding from Dr Kelly’s ulnar artery is highly unlikely to have been so voluminous and rapid that it was the cause of death... The arterial injury had resulted in the loss of a significant volume of blood, as noted at the scene... This artery has the width of a matchstick in its constricted state... It is not easily felt on the little finger side of the wrist... on the contrary, the radial artery pulse is easily felt beneath the skin on the opposite side of the wrist. It is thus more difficult to cut the ulnar artery... Dr [Nicholas] Hunt [who testified before the Hutton Inquiry] describes complete severance of this artery, ie transection. This means the elasticity of the artery would have caused it to retract within its sheath... Contraction of the circular smooth muscle within the arterial wall would have narrowed the artery, thus reducing or stopping blood flow. Blood clots would have formed in the wound, but also within the narrowed artery...”

That clotting within the artery would have happened more speedily because the cutting was done with considerable trauma, thus causing more damage to the lining membrane, the intima... Damage to the cells of the intima causes aggregation of blood platelets, thus hastening clotting within the vessel... We advise the instructing solicitors to obtain the autopsy reports so that the concerns of a group of properly interested medical specialists can be answered.” One of the doctors, David Halpin – a former lecturer in anatomy at King’s College, London and a former consultant in orthopaedic and trauma surgery at Torbay Hospital – is quoted as saying: “We reject haemorrhage as the cause of death and see no contrary opinion which would stand its ground. I think it is highly likely he was assassinated.” The doctors – who intend to use the Coroners Act to challenge Lord Falconer’s suspension of the inquest – have reportedly worked closely with Liberal Democrat Member of Parliament Norman Baker, who has previously claimed that Dr Kelly was the victim of foul play [see 25 Feb 07 and 11 Nov 07]. Halpin and another of the doctors also claim that thousands of emails relating to the case had “vanished” from their computers, in what one doctor claims was an act of “state-sponsored sabotage”. Halpin says he lost more than 6,000 pieces of correspondence – many relating to Dr Kelly – during his investigation. His emails, he says, started disappearing as though they were being sifted remotely. “I believe this will have been done by a state-sponsored agency and not by an amateur acting singly,” he says. *The Mail on Sunday* quotes a civil servant speaking on condition of anonymity – who is a “close associate” of Halpin and who has also investigated the case – as saying that around the same time he also lost “somewhere in the region of 2,000 emails”, many of which related to Dr Kelly. “I have no doubt that my computer was hacked into,” he is quoted as saying. Norman Baker, who has previously made similar allegations, also claims that Rowena Thursby, who helped establish the Kelly Investigation Group which has campaigned for the inquest into Dr Kelly’s death to be reopened on several occasions, has also lost a large number of emails in a similar manner.

Four days later, in a continuation of its reporting on the matter, the London *Daily Mail* quotes vascular surgeon Martin Birnstingl as saying that it would have been virtually impossible for Dr Kelly to have died by severing the ulnar artery on the little finger side of his inner wrist. “I have never, in my experience, heard of a case where someone has died after cutting their ulnar artery. The minute the blood pressure falls, after a few minutes, this artery would stop bleeding. It would spray blood about and make a mess but it would soon stop.” The *Mail* additionally quotes the opinion as stating: “To die from haemorrhage, Dr Kelly would have had to lose about five pints of blood. It is unlikely from his stated injury that he would have lost more than a pint.”

Three weeks later, the London *Sunday Express* reports former UN weapons inspector Richard Spertzel as saying he is prepared to testify before the Chilcot inquiry on the emergence of evidence that Saddam Hussein was planning to attack US and European cities with sarin and mustard gas contained in perfume bottles. Spertzel is also reported as saying that both he and Dr Kelly were on an Iraqi hit list. “I was number three and David was number four,” says Spertzel. Regarding Dr Kelly’s death, Spertzel says: “It was a very strange death... We were wary that the Iraqi intelligence services may have been involved. My concern was whether the Iraqis were after David Kelly.” Asked whether he would support the holding of an inquest in Dr Kelly’s death, Spertzel says: “It might be too little, too late. I knew Dr Kelly reasonably well and in my view he was not suicidal.” [See also 27 Jan 04]

13 July The Russian Radiation, Chemical and Biological Defence Troops are “one hundred per cent equipped with modern armaments and protective means and are fully prepared to deter a possible attack or a terrorist act using chemical weapons”, so reports Interfax-AVN military news agency, quoting commander of the troops Colonel Yevgeniy Starkov.

13 July Russia did not possess any stocks of fentanyl at the time of the siege of the Dubrovka Theater in Moscow [see 26 Oct 02], so writes Vil Mirzayanov [see 30 Dec 08]. On his blog Mirzayanov says: “If in Russia someone was planning to produce it, he could do it only in GosNIIOKhT. But GosNIIOKhT didn't have at that time any production facility for fentanyl... Fentanyl was produced that time in Europe and USA. For some medical purposes Russia was purchasing fentanyl in Romania.”

13 July The US Congressional Research Service releases *Chemical Facility Security: Reauthorization, Policy Issues, and Options for Congress*. The report provides an overview of the existing statutory authority of 2006 – which expires in October 2009 – to regulate chemical facilities for security purposes and the regulation implementing the authority. It also describes a number of policy issues raised in previous debates regarding chemical facility security; and identifies policy options that could address such issues.

13 July The US Centers for Disease Control and Prevention publishes a notice in the Federal Register proposing to designate the SARS-associated coronavirus as a ‘select agent’. According to the Center for Infectious Disease Research and Policy, of the 138 laboratories in the USA known to possess the virus, 73 are already registered to work with select agents and toxins. A laboratory possessing the virus would be required to register with federal authorities within 180 days of publication of the final rule, which could cost the laboratory anything between \$15,300 and \$170,000.

13-17 July In Centurion, South Africa, there is the second [see 22-26 Sep 08] basic course for personnel of national authorities in Africa who are involved in the implementation of the CWC. The course, which is jointly organized by the government of South Africa and the OPCW, aims to enhance the capacity of national authorities in Africa to implement the CWC and to foster closer co-operation on a regional and sub-regional basis. Attending the event are representatives of the following eighteen CWC parties: Botswana, Burkina Faso, Burundi, Cote D'Ivoire, Congo, Ethiopia, Eritrea, Ghana, Lesotho, Liberia, Libya, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Uganda and Zambia.

14-17 July At OPCW headquarters, the Executive Council convenes for its fifty-seventh [see 21-24 Apr] session, which on this occasion is chaired by Jorge Lomónaco Tonda, Permanent Representative of Mexico.

The following delegations make statements during the general debate: Sweden (on behalf of the European Union and associated countries), Cuba (on behalf of the Non-Aligned Movement and China), South Africa (on behalf of the African Group), Japan, Costa Rica (on behalf of the GRULAC), Russia, India, the USA, Pakistan (on behalf of the Asian Group), the South Korea, Bosnia and Herzegovina (observer), Brazil, Nigeria, Indonesia (observer), Serbia (observer), Saudi Arabia, China, Iran, Ukraine, Sri Lanka, Cameroon, Pakistan (on its own behalf), Chile, and Iraq (observer). In his statement, US Representative to the OPCW Robert P Mikulak says: “Based on current projections, the United States expects to destroy

90 per cent of its chemical weapons stockpile by the extended Convention deadline of April 29, 2012. This means that by 2012, seven of the original nine storage sites will have eliminated all of their chemical weapons.”

The Council notes the opening statement of Director-General Rogelio Pflirter regarding chemdemil and verification. Pflirter notes that as at 30 June 2009, the aggregate amount of Category 1 chemical weapons destroyed by an unidentified state party (known to be South Korea), Albania, India, Russia and the USA stood at 31,904 metric tonnes, or 45.95 per cent, of the total quantity declared. Meanwhile, the amount of Category 2 chemical weapons destroyed by these parties and Libya had reached 915 metric tonnes, or 51.84 per cent of the total amount declared. As at 30 June 2009, Russia had destroyed 13,013 metric tonnes of Category 1 chemical weapons, or 32.56 per cent of the aggregate amount declared by it. By 30 June, the Shchuchye facility had already destroyed more than 25 per cent of the rocket warheads filled with sarin (GB) through the use of both processing lines in building 1A [see also 29 May]. The final engineering review of the new processing building at the Maradykovsky facility, which is designated for the destruction of munitions filled with sarin (GB), viscous soman (GD), and VX, was conducted at Maradykovsky between 2 and 5 June 2009. Actual destruction will commence in the second half of this month. As at 30 June 2009, the USA had destroyed 17,222 metric tonnes of Category 1 chemical weapons, or 62.02 per cent of its declared stockpile. Four CWDFs in the USA – i.e. Tooele, Umatilla, Anniston, and Pine Bluff – are currently destroying mustard.

The Council notes the part of Pflirter's statement in which he says the OPCW takes notice of the announcement made the previous day by Libya regarding its intention to request an extension of its chemdemil deadline. Pflirter says that he believes the matter will be presented to the Executive Council at its meeting in October. In this regard, he restates “the importance of taking prompt action towards completing the destruction of the chemical weapons declared there”.

The Council notes that Pflirter's statement says that fifty Article VI inspections have been completed since the previous session of the Council, namely: three at Schedule 1 facilities; eleven at Schedule 2 facilities, of which three included sampling and analysis; seven at Schedule 3 facilities; and twenty-nine at other chemical production facilities.

The Council takes note that Pflirter's statement says the Secretariat has analysed emerging trends regarding the selection of Schedule 3 facilities for inspections for the coming three years, the results of which are contained in a Note dated 17 June 2009.

The Council notes the part of Pflirter's statement saying that during the intersessional period, two CWC parties, Cambodia and the Bahamas, submitted their initial declarations and that as at 19 June 2009, 76 parties had submitted an annual declaration of past activities for 2008. Pflirter, however, adds: “I must note that there still remain 12 States Parties that have not done so”

The Council approves amendments to the agreed detailed plan for verification of chemdemil at the Maradykovsky chemical weapons destruction facility (CWDF). It also approves amendments to the agreed detailed plan for verification of chemdemil at the Ruwagha Chemicals Reloading System and Rabta Toxic Chemicals Destruction Facility in Libya and notes modifications to the facility agreement with Libya regarding on-site inspections there. The Council also approves modifications to the facility agreement with Russia regarding on-site inspections at the Maradykovsky CWDF; agrees changes to four facility agreements between the OPCW and the USA for CWDFs; receives the agreed changes to two facility agreements between the OPCW and the USA for Schedule 1 facili-

ties; and receives the agreed changes to eight facility agreements between the OPCW and the USA for chemical weapons storage facilities.

Further to a decision by the Conference at its eleventh session [see 5-8 Dec 06], the Council notes national papers by India, Libya, Russia and the USA on the status of their destruction obligations. Further to a decision by the Council at its forty-sixth Session [see 4-7 Jul 06], the Council notes a national paper by China entitled '*Report on the Status of the Chemical Weapons Abandoned by Japan in China*', dated 13 April 2009; and a national paper by Japan entitled '*The Report of the Current Status of the ACW Projects in China (Reporting Period: from 1 January to 31 March 2009)*', dated 17 April 2009.

The Council notes the 2008 Verification Implementation Report dated 24 April 2009, and the comments and views relating thereto.

Further to its consideration of this issue at its previous sessions, the Council notes a report by Pfirter on the status of implementation of Article XI of the CWC, dated 5 February 2009. It welcomes the appointment of Chen Kai of China as facilitator on the matter, and encourages him to pursue informal consultations at an early date to explore all options to identify concrete measures for the full implementation of Article XI and to report to the Council at its next regular session on progress made. The Council reaffirms its previous request that delegations work towards convening a workshop early in 2010 – as proposed by Cuba – to explore ways to achieve full implementation of Article XI.

Further to its consideration of this issue at its previous sessions, the Council considers further the report by Pfirter on the performance of the modified methodology for the selection of other chemical production facilities (OCPFs) for inspection, decides to consider it further at its next regular session, and emphasizes the need for the early appointment of a facilitator in order to resume consultations on the OCPF site-selection methodology as a matter of urgency, with a view to reaching an early decision by CWC parties, in accordance with paragraph 11 of Part IX of the Verification Annex to the Convention.

The Council considers the 'Draft Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2008', dated 16 July 2009, and forwards it to the Conference for consideration at its fourteenth session.

Chairman Tonda submits to the Council a Note reflecting his views on the consultations that he has had held since 12 May 2009 on issues related to the appointment of a new Director-General. In the Note, he encourages candidates and CWC parties' representatives to continue to meet after the fifty-seventh session of the Council in order to acquire a better understanding both of the candidates' positions and the delegations' expectations. The Council notes the consultations undertaken by Tonda on issues relating to the appointment of the Director-General and encourages him to continue to carry them out, with the aim of reaching consensus on a candidate. The Council requests him to keep interested delegations informed regarding the progress being made towards reaching consensus on a recommendation by the Council at its fifty-eighth session – to be submitted to the Conference at its fourteenth session – for the appointment of a candidate to the position of Director-General.

The seven candidates (reportedly from Algeria, Finland, Germany, Indonesia, Switzerland, Turkey and the UK) all make presentations to the Council. Three months later, at the end of its 58th session, the Council decides by consensus to recommend the appointment of Ambassador Ahmet Üzümcü of Turkey.

15 July The Tokyo High Court has dismissed an appeal by the former leader of Aum Shinrikyo for a retrial, so reports the Associated Press, citing "sources close to the case". Chizuo Matsumoto – also known as Shoko Asahara – was sentenced to death [see 27 Feb 04] for organizing a series of criminal acts, including an attack using sarin gas in Matsumoto [see 28 Jun 1994] and on the Tokyo underground rail network [see 20 Mar 95], a ruling which was subsequently upheld by the Supreme Court [see 15 Sep 06]. The court rules that what the appeal claims to be new evidence will not lead to the overturning of the sentence. The appeal to the High Court for a retrial was filed by one of Matsumoto's daughters, after her initial appeal was rejected by the district court in March 2009 [see also 11 Nov 08]. [See also 10 Jul]

15 July The US Department of the Army, the Marine Corps Combat Development Command, the Navy Warfare Development Command and the Air Force Doctrine Center release *Multiservice Tactics, Techniques, and Procedures for Health Service Support in a Chemical, Biological, Radiological, and Nuclear Environment*. The purpose of the document is to inform the combatant commanders, joint force commanders, joint force medical commanders and medical planners, and component commanders and their staffs on the tools available to provide the best quality of health protection and health service support to military personnel in a CBRN environment, with a view to enhancing mission success.

16 July In Pristina, Kosovo, veterans of the Kosovan Liberation Army (KLA) throw "bottles with gas in the court of the government" during ongoing protests against their treatment as "beggars" by the government, so reports KosovaLive website.

16 July The US Department of Homeland Security (DHS) Science and Technology Directorate publishes the Record of Decision on the selection of the site for the National Bio- and Agro-Defense Facility (NBAF). The Record of Decision, which based on the information and analysis of the previously published NBAF Final Environmental Impact Statement [see 5 Dec 08], officially designates Manhattan, Kansas as the site upon which the NBAF will be built. Announcing the publication, DHS Under Secretary for Science and Technology Jay Cohen says: "This decision completes a comprehensive three-year effort to ensure our ability to safely and effectively secure our nation's agriculture and food supply... I accepted the NBAF DHS/Department of Agriculture Steering Committee's unanimous recommendation to build the NBAF in Manhattan because it represents the best overall proposal on how to meet mission needs." [See also 23 Apr]

17 July In Tokyo, the Supreme Court upholds the death sentence handed down by the Tokyo District Court to a former member of the Aum Shinrikyo cult for, amongst other things, his involvement in the construction of a facility to produce sarin and the murder in 1989 of a lawyer, his wife and their son [see 17 Jul 00]. In 2004 Kiyohide Hayakawa had his appeal rejected by the Tokyo High Court. He had requested that his sentence be commuted on the grounds that he had no choice but to obey the leader of the cult, Chizuo Matsumoto, also known as Shoko Asahara, and that it was unfair for him to receive the same punishment as Matsumoto [see 15 Jul].

Two weeks later, the Supreme Court finalizes Hayakawa's sentence, thereby making him the sixth member of the cult to have had their death sentences finalized, so reports Kyodo news agency, quoting "sources familiar with the matter".

17 July In London, there is a private screening of a US documentary 'Anthrax War' – which was first broadcast four months previously in Canada by CBC Newsworld [see 29 Mar] – to coincide with the sixth anniversary of the death of Dr David Kelly [see 17 Jul 03]. Reporting on the screening, the London *Daily Express* says the film claims, amongst other things, that in the months leading up to his death, Dr Kelly had been writing a book in which he said he had warned the then UK Prime Minister Tony Blair that there were no weapons of mass destruction in Iraq weeks before the US-led invasion of the country. The *Express* quotes author and intelligence expert Gordon Thomas as saying: "I knew David Kelly very well and he called me because he was working on a book... He told me he had warned Tony Blair there were no weapons of mass destruction. I advised him that as he had signed the Official Secrets Act life could get difficult for him... I gained the impression that he was prepared to take the flak as he wanted his story to come out." Thomas reportedly claims that the book – of which, prior to the controversy surrounding the government's dossier on Iraqi weapons of mass destruction [see 24 Sep 02], Dr Kelly had written some forty pages – is now being held by MI5. The documentary, made by filmmakers Bob Coen and Eric Nadler, additionally claims that Dr Kelly was also intending to expose a black market trade in anthrax that was being exploited by many governments, as well as his involvement with South Africa's biological warfare programme during the apartheid era. Coen is quoted as saying: "David Kelly was of particular interest to us because he was a world expert on anthrax and he was involved in some degree with assisting the secret germ warfare programme in apartheid South Africa." In the film, former head of the South African biological weapons programme Wouter Basson claims he had discussed biological warfare materials with Dr Kelly on a number of occasions and had also been shown around the laboratories at Porton Down [see also 7 May 08]. The documentary also addresses the mystery of the so-called "third man" seen near the spot where Dr Kelly died. It states that Louise Holmes and Paul Chapman had found Dr Kelly slumped against a tree with an injured arm "bent back in a funny position" and that they told the Hutton Inquiry that three policemen had approached them shortly after they discovered Dr Kelly's body – not two as the police later claimed. [See also 12 Jul]

18 July In Russia, the US-sabotage explanation for the Sverdlovsk anthrax outbreak of 1979 [see 15 Nov 99] is once again [see 7 Apr 06] expressed by former Soviet BW officials, this time in an article by Stanislav Veniaminovich Petrov and Mikhail Vasilyevich Supotnitskiy in the Moscow military weekly *Nezavisimoye Voyennoye Obozreniye* that repeats much of what they had written six years previously [see 23 May 01].

18 July In the USA, the Court of Federal Claims has dismissed a lawsuit challenging the decision by the Department of Homeland Security (DHS) to choose Manhattan, Kansas as the site for the National Bio- and Agro-Defense Facility, so reports the Associated Press. The court rejected the lawsuit on the grounds of its having been filed prematurely, given that construction of the laboratory has yet to begin. The Texas Bio- and Agro-Defense Consortium had contended that the DHS had, amongst other things, ignored the region's high risk of tornadoes and that the decision to select Manhattan was based on political expediency. [See also 16 Jul]

19 July In Damascus, Syria, in a meeting between Russian Special Presidential Representative for the Middle East and Deputy Foreign Minister Alexander Saltanov and his

Syrian counterpart Walid Muallem the importance of strengthening the regime for the nonproliferation of WMD, in particular through the establishment of a WMD free-zone in the Middle East is noted.

20 July At OPCW headquarters, the Technical Secretariat launches its tenth [see 19 Sep 08] annual associate programme. The objective of the ten-week programme is to provide training in chemistry to personnel from industry, universities and government agencies from CWC parties with developing economies, with a focus on the peaceful uses of chemistry, and to facilitate trade through the adoption of best practices in the chemical industry. Participating in the programme this year are 28 associates from 27 countries, including 15 participants from 14 African countries.

20 July In the USA, the Army Inspector-General has concluded that from September 2003 through August 2005 the Blue Grass Army Depot did not adequately monitor the air quality in chemical weapons storage units, although there was no evidence that any workers were exposed to VX agent as a result. According to Public Employees for Environmental Responsibility, which obtained the report under a Freedom of Information Act request, the Inspector-General withheld the report for more than three years owing to "an ongoing US Army Criminal Investigation Command investigation". The report, which is dated 10 February 2006, confirms some of the allegations raised by Donald Van Winkle, a former employee at the facility who claimed he had been forced out of his job after raising safety concerns regarding the air monitoring system used in the storage units. A court recently rejected a claim by Van Winkle that the facility retaliated against him for reporting the violations [see 15 Apr]. According to the Associated Press, the report agreed with Van Winkle that as a result of improperly moving the conversion pads – which converts VX into a vapour more easily detected by monitoring equipment – during the period in question, "an accurate measurement of any VX agent vapour release would not have been possible". However, it rejects as "unfounded" his claims, and those of others, that this created inaccurate readings thereby putting at risk the health and safety of workers and making possible the escape of VX into the atmosphere.

21 July The Government Accountability Office transmits to Congress *Project Bioshield: HHS Can Improve Agency Internal Controls for Its New Contracting Authorities*. The report reviews how, under the Project BioShield Act 2004, the Department of Health and Human Services (HHS) has used its purchasing and contracting authorities and the extent to which it has internal controls in place to manage and ensure the appropriate use of the new authorities conferred on it under the Act. Amongst other things, the report concludes that "although HHS has established internal controls for its new purchasing and contracting authorities, the risk assessment statements related to the agency's internal controls for the contracting authorities are not sufficiently specific".

22 July At UN headquarters, Iraqi Prime Minister Nouri al-Maliki asks the Secretary-General Ban Ki-moon and the five permanent members of the Security Council to consider removing all punitive resolutions imposed on Iraq by the Council following the Iraqi invasion of Kuwait in 1990, on the grounds that Iraq no longer poses any threat to international peace and security. Seven months previously, the Security Council decided to review all Iraq-related resolutions adopted after the invasion of Kuwait, and requested the Secretary-General to consult the Iraqi government and report on facts for the Council

to consider in deciding what action to take. The Associated Press quotes al-Maliki as saying that Iraq is waiting for the report of the Secretary-General, which according to UN deputy spokeswoman Marie Okabe “will be issued shortly”.

24 July North Korea has tested chemical and biological weapons on, amongst others, mentally or physically handicapped children, so reports Al Jazeera, quoting accounts thereof given by a “former military captain”. Im Chun-yong, who with a number of other members of the special forces Brigade number 19 managed to fight his way over the North Korean border in December 1999, is quoted as saying: “If you are born mentally or physically deficient, the government says your best contribution to society [...] is as a guinea pig for biological and chemical weapons testing.” Im says that in the early 1990s he watched his then commander try to prevent surrendering his mentally ill twelve-year-old daughter to the authorities, but that he gave in after mounting pressure from his military superiors. Im says one of his men later informed him that whilst guarding a secret facility on an island off the North Korean west coast, he witnessed a number of people being forced into a glass chamber. “Poisonous gas was injected in”, says Im. “He watched doctors time how long it took for them to die.” Im also says he was trained on methods of using chemical and biological weapons, including how to fire them from short-range “bazooka-style” weapons. This training, he says, was normal practice for all elite units. Though there have been previous accounts of human experimentation in North Korea [see 28 Jul 04], Al Jazeera points out that this is the first time there have been reports of this being conducted on mentally-ill or physically disabled children. It also quotes Kim Sang-hun, a retired UN official who has investigated North Korea’s chemical and biological weapons programme, as saying that he believes over the past 20 years, the programme has advanced at a startling pace, specifically because the country supports the use of human test subjects. “Human experimentation is a widespread practice... [I]t is the reality and it is taking place in North Korea and it is taking place at a number of locations... The programme is now a commonly known fact in the North Korean public.” According to Al Jazeera, Kim has identified “at least three to five labs that he believes are situated in different parts of the country, including one just a few kilometres north of Pyongyang”.

24 July At OPCW headquarters, the eleventh OPCW inspector training course concludes, having commenced thirteen weeks previously around the same time as the tenth such course concluded [see 28 Apr]. In total, thirteen trainee inspectors from the following nine countries attended the course: Canada, India, Iran, Jordan, New Zealand, Singapore, South Africa, Spain and the UK. The course was supported by the governments of Belgium, France, Italy, the Netherlands, Slovakia, Switzerland, and the USA. According to an OPCW press release, the new recruits will now join a team of 180 OPCW inspectors. The OPCW notes that since entry into force of the CWC, it has devoted a total of 197,000 inspector-days to inspecting more than 1,400 military and industrial facilities globally.

27 July The UK Foreign and Commonwealth Office announces the appointment of Professor David Clary, a chemist, as its first Chief Scientific Adviser.

27-31 July In Malacca, Malaysia, there is a sub-regional training course for customs authorities in South and South East Asia on technical aspects of the CWC transfers’ regime at the Royal Malaysian Customs Training Academy [see also 2 – 4 Mar]. The event, which is funded by way of a

voluntary contribution from South Korea, brings together thirty-three participants from sixteen CWC parties – Afghanistan, Australia, Bangladesh, Bhutan, Cambodia, India, Indonesia, Laos, Maldives, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, and Viet Nam – and two participants from Myanmar, a non-party. It provides participants with the opportunity to explore discrepancies in the reporting of transfers of scheduled chemicals and practical customs-related matters such as control of scheduled chemicals in free ports and free zones, risk assessment, transshipments, and software for customs services. Instruction is also offered on practical ways to eliminate discrepancies between the quantities of scheduled chemicals declared by importing and exporting parties in respect of the same transfers.

28 July In the US House of Representatives, the Armed Services Subcommittee on Terrorism, Unconventional Threats and Capabilities holds a hearing on *Chemical, Biological, Radiological, Nuclear and High-Yield Explosives Consequence Management*. Testifying before the committee are: Assistant Secretary, Office of Policy, Department of Homeland Security David Heyman; Assistant Secretary of Defense for Homeland Defense and Americas’ Security Affairs Paul Stockton; Commander of United States Northern Command General Victor E Renuart; and Director of Defense Capabilities and Management, Government Accountability Office David M D’Agostino.

29 July Russian head of the Kirov department for conventional problems Mikhail Manin says that the Maradykovsky chemdemil facility has now destroyed “more than 1,100 kilograms” of sarin, contained in 26 warheads, noting also that the facility commenced destroying the sarin two days previously. According to ITAR-TASS news agency, the facility is scheduled to destroy 231 tons and 119 kilograms of sarin contained in 4,833 aviation bombs and warheads of chemical missiles. [See also 14 Nov 08]

29 July In Brussels, the Council of the European Union decides to continue supporting OPCW activities within the framework of the implementation of the EU Strategy against Proliferation of WMD [see 17 Dec 08]. Eight projects conducted by the OPCW Technical Secretariat are to be funded for 18 months to a total of EUR 2.11 million. The projects are detailed in an annex to the Council decision, 2009/569/CSP.

29 July The UK Royal Society publishes a report based on its recent joint meeting with the International Council of the Life Sciences on *New Approaches to Biological Risk Assessment* [see 19 Feb], which it summarizes as follows: “The report reviews the spectrum of biological risks, from naturally occurring diseases through to the deliberate misuse of biological agents as weapons, and encompassing unintended risks such as laboratory accidents, and those associated with dual use research. It outlines some implications of advances in science and technology, and highlights key issues for the development of a common international approach to assessing and managing biological risks.”

30 July The US Government Accountability Office transmits to Congress *Biological Research: Observations on DHS’s Analyses Concerning Whether FMD [foot-and-mouth disease] Research Can Be Done as Safely on the Mainland as on Plum Island* [see also 22 May 08]. The report criticizes the procedure by which the Department of Homeland Security (DHS) concluded it as being safe to move FMD research from Plum Island to Manhattan, Kansas – the site recently selected by DHS for the National Bio- and Agro-Defense Facility (NBAF)

[see 16 Jul]. It concludes thus: “The analyses that DHS conducted on the potential relocation of FMD work to the mainland have several limitations. DHS’s analyses did not effectively characterize and differentiate the risks associated with the release of FMD virus at the six sites... The simple straightline Gaussian plume model DHS used for its accident analyses was based on unrepresentative accident scenarios, outdated dispersion modelling techniques, and inadequate meteorological data, and therefore it was not appropriate for determining the extent of dispersion of an FMD virus release. Drawing conclusions about relocating research with highly infectious exotic animal pathogens from questionable methodology could result in regrettable consequences. Site-specific dispersion analysis, using proven models with appropriate meteorological data and defensible source terms, should be conducted before scientifically defensible conclusions can be drawn... The [economic] analyses were constrained by limited scope and detail. They did not incorporate worst-case outbreak scenarios. [In this regard,] DHS did not effectively integrate all the critical information from its analyses to characterize differences in risks between the mainland and island sites. [O]ur review of the EIS [Environmental Impact Statement] [see 5 Dec 08] also found that it did not address hazards associated with large animals – a unique purpose of the NBAF... Plum Island offers a unique advantage – with its water barrier and absence of animals – over the mainland. If foreign infectious viruses are introduced into the United States, research on these viruses must be done with the utmost care and planning. For these reasons, work of this nature should be conducted only where adequate analyses have shown that the consequences of an accidental release are absolutely minimized. Given the significant limitations in DHS’s analyses that we found, the conclusion that FMD work can be done as safely on the mainland as on Plum Island is not supported.”

The next day Senators Pat Roberts and Sam Brownback, and Representatives Lynn Jenkins, Dennis Moore, Jerry Moran and Todd Tiahrt release the following statement regarding the GAO’s report: “The report backhandedly discounts FMD research already conducted on the mainland in Canada, without any apparent basis in fact, and also ignores the fact that modern building technology allows research on dangerous human diseases in urban areas such as the Centers for Disease Control in Atlanta, GA... Given the fundamental errors in the report, the conclusions are highly suspect... The greatest threat to agriculture and the food supply in America is not having modern biocontainment facilities to conduct critical research. Our nation is not prepared to handle natural, accidental or intentional outbreaks of animal diseases. We cannot afford further politically motivated delay.”

30 July The US National Academy of Sciences Committee to Review the Scientific Approaches used During the FBI’s Investigation of the 2001 *Bacillus Anthracis* Mailings [see 7 May Washington] convenes for its first meeting. A

project summary previously released by the Academy has set out the remit of the committee thus: “The committee will review and assess scientific evidence (studies, results, analyses, reports) considered in connection with the 2001 *Bacillus anthracis* mailings. In assessing this body of information, the Committee will limit its inquiry to the scientific approaches, methodologies, and analytical techniques used during the investigation... The areas of scientific evidence to be studied by the committee include, but may not be limited to: genetic studies that led to the identification of potential sources of *B. anthracis* recovered from the letters; analyses of four genetic mutations that were found in evidence and that are unique to a subset of Ames strain cultures collected during the investigation; chemical and dating studies that examined how, where, and when the spores may have been grown and what, if any, additional treatments they were subjected to; studies of the recovery of spores and bacterial DNA from samples collected and tested during the investigation; and the role that cross contamination might have played in the evidence picture... The committee will necessarily consider the facts and data surrounding the investigation of the 2001 *Bacillus anthracis* mailings, the reliability of the principles and methods used by the FBI, and whether the principles and methods were applied appropriately to the facts. The committee will not, however, undertake an assessment of the probative value of the scientific evidence in any specific component of the investigation, prosecution, or civil litigation and will offer no view on the guilt or innocence of any person(s) in connection with the 2001 *B. anthracis* mailings, or any other *B. anthracis* incidents.”

The next day, Representative Rush Holt [see also 2 Mar] tells the committee that the inquiry into the government’s handling of the case should be broadened as he remains sceptical that Ivins acted alone in perpetrating the attacks. “Our government – and – specifically, the FBI – suffers from a credibility gap on this issue,” adds Holt.

31 July The US House of Representatives has adopted a Defense Appropriations Bill which approves a \$547 million FY2010 funding request by the Department of Defense for the Assembled Chemical Weapons Alternatives programme, so reports the Chemical Weapons Working Group. If approved by the Senate the increased funding would enable Pueblo Chemical Depot in Colorado to complete its chemdemil operations by 2017 and the Blue Grass Army Depot in Kentucky to complete its operations by 2021. [See also 28 Apr]

This Chronology was compiled mostly by Nicholas Dragffy from information supplied through HSP’s network of correspondents and literature scanners.

Recent Publications

What follows is taken from entries since the last Bulletin into our electronic CBW Publications Database, which records and classifies substantial new acquisitions by the Sussex Harvard Information Bank. All such recorded items are held in hard copy in SHIB, which is open to visitors at the University of Sussex by prior arrangement. For access please apply to HSP Sussex.

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Forthcoming Events

18-26 November 2009

World Forum Conference Centre, The Hague, Netherlands
8th Session of the International Criminal Court Assembly of States Parties

Details: www.icc-cpi.int

30 November - 4 December 2009

OPCW Headquarters, The Hague
14th Session of the Conference of the States Parties

Details: www.opcw.org/events-calendar/csp-14/

1 December 2009

The Hague, Netherlands
NGO Event: Open Forum during CSP-14.
Details: email michael.luhan@opcw.org

2-3 December 2009

World Forum Conference Centre, The Hague, Netherlands
Meeting convened by Global Green USA to discuss the establishment of a formal International NGO Coalition Against Chemical Weapons,
open to all NGOs registered for CSP-14.

Details: email p.walker@globalgreen.org

5-6 December 2009

Geneva, Switzerland
30th Workshop of the Pugwash Study Group on Implementation of the CBW Conventions
Preparing for the Seventh BWC Review Conference
By invitation only

7-11 December 2009

Geneva, Switzerland
Meeting of the States Parties to the BWC 2009

23 - 26 February 2010

OPCW Headquarters, The Hague
59th Session of the OPCW Executive Council
Details: www.opcw.org

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HSP is an inter-university collaboration seeking to insert the traditions, practice and benefits of scholarship into the formation of public policy on issues involving chemical and biological weapons. It supports efforts to eliminate these weapons globally and to promote effective governance of 'dual use' technologies applicable to them. University-based research and publication, other forms of international communication, constructive association with people in policy-making and policy-shaping circles, and training of young people are the means HSP uses to these ends. HSP has accordingly nurtured widespread networks for information, discourse, study and consensus-building on CBW that engage scientists and other scholars with one another and with officials of governmental and intergovernmental bodies.