

concerns among arms control experts that Pakistan could face extreme difficulties controlling and protecting its nuclear weapons and fissile materials.

In November 2001, two Pakistani nuclear scientists were arrested for possible connections with the Taliban and Al Qaeda. One of these scientists, Sultan Mahmood, was a nuclear engineer who reportedly played an important role in Pakistan's programs to produce highly enriched uranium and plutonium. The scientists reportedly admitted to having briefed Bin Laden and his associates several times on nuclear, biological, and chemical weapons.¹⁵ Although neither scientist appears to have particular experience in building these weapons, this incident highlights concerns about possible connections between some members of Pakistan's nuclear industry with Islamic fundamentalist groups. Moreover, according to recent reports, the United States is currently investigating new leads on possible contacts between Pakistani nuclear scientists and the Taliban or al-Qaeda. While there are few details on the new investigations, these nuclear scientists may have actual experience in the production of nuclear weapons and related technologies.¹⁶

What Can Be Done?

There is much that can be done to address some of these problems. First, the United States and the international community should significantly increase their efforts to help Russia improve its MPC&A systems. This would include substantially increasing funding for MPC&A upgrades; development of a joint strategic plan to complete upgrades as rapidly as possible; and commitments among high-level Russian officials to sustain MPC&A systems in the future; and agreements on expanded and accelerated efforts to consolidate Russian fissile materials to a smaller number of facilities.¹⁷ Second, the United States should explore opportunities for renewing MPC&A collaborations with China. Although there have been few prospects for this in recent years, there has been an improvement in U.S.-China relations since the September 11 attacks, which may allow

opportunities for re-introducing such a program in the future. Third, given the urgency of the situation in Pakistan, the United States should consider a contingency plan to provide emergency assistance in protecting Pakistani nuclear materials and facilities.

Finally, the United States and the international community should increase their nonproliferation efforts in South Asia and the rest of the world. In the aftermath of the terrorist attacks, the United States has eased its economic sanctions and much of its nonproliferation pressure on Pakistan. While these actions may be necessary in the short-term, it is important not to forget long-standing nonproliferation objectives as the United States turns its focus on the war on terrorism. Indeed, given the enormous potential impact of even a moderately successful act of nuclear terrorism, improving MPC&A should be an integral part of this war. □

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Biological and Chemical Weapons Conventions

The First Line of Defense Against Biological and Chemical Terrorism

by Jean Paul Zanders

On 11 September 2001 three planes were deliberately slammed into the World Trade Center in New York and the Pentagon in Washington, DC. A fourth plane, whose target is unknown, crashed in a field in Pennsylvania after the passengers reportedly tried to overpower the hi-

jackers to prevent further disaster. These unprecedented terrorist attacks have had some immediate repercussions. First, democracies across the world sensed an increased vulnerability to aggression, more so as the terrorists apparently exploited the openness of these societies to plot their strikes. Second, a national security posture primarily based on defence may offer citizens and critical infrastructure too little protection too late. Third, rather than a massive strike involving sophisticated weaponry, the main threats to democracies may consist of unexpected and unpredictable attacks carried out through relatively unsophisticated means but which have terrible consequences for the targeted society.

Non-conventional weapons in particular pose extra concern in this new threat environment, because they increase the sense of helplessness and have the potential to stretch the resources of the health infrastructure, law enforcement and security agencies to their limits. Failure to deal swiftly and efficiently with the consequences of the release of chemical and biological agents will undoubtedly erode public confidence in the capability of local and national authorities to provide effective security to the civilian population.

There are many tools to deal with terrorism involving the release of chemical and biological agents, including national legislation, national defensive measures and international instruments (such as the UN conventions on terrorism, the International Criminal Court, and so on). Within the framework of international instruments against terrorism, the 1972 Biological and Toxin Weapons Convention (BTWC) and the 1993 Chemical Weapons Convention (CWC) take up a central position. The treaties are not a panacea, but they do establish a core set of norms that govern the behaviour of states, companies and individuals. In addition, they offer party states tools to deny terrorists access to CBW, improve their national

emergency capabilities, and manage the consequences in the event of a terrorist release of chemical and biological agents.

The Prohibitions

The first line of defence against terrorist acquisition of chemical and biological weapons (CBW) is prevention. The core prohibitions in the BTWC and CWC are an important tool in this respect. They are to a large extent comparable, although both conventions differ considerably regarding the means of verifying implementation and enforcing compliance. The treaties partially overlap as they both cover toxin agents (poisonous substances produced by organisms and their synthetically manufactured equivalents).

The timely destruction of chemical weapons worldwide is... imperative.

The BTWC and CWC make the acquisition, possession and use of CBW illegal. (In the case of the BTWC, the understanding of Article I was extended to include biological weapon (BW) use at the Fourth Review Conference in 1996.) In addition, parties to the conventions are required to destroy biological and chemical warfare agents, their delivery systems and infrastructure related to their development, production and storage. They may retain limited quantities for non-prohibited purposes, such as protection and prophylaxis. The net effect of these obligations with respect to terrorism is that no such weapons are available for theft. The timely destruction of chemical weapons (CW) worldwide is therefore imperative. This is particularly relevant with respect to the Russian CW, as there has been considerable international concern that criminal or terrorist organizations might try to remove some highly toxic munitions from poorly guarded stockpile sites, although security at the sites is said to have been improved since the 11 September attacks. Nevertheless, the risk persists that agents may be diverted from legitimate inventories in laboratories, as illustrated by the speculation that the

anthrax spores sent in letters may have originated from a US defence laboratory.

The non-proliferation clauses in both treaties make up a second pillar of the prevention strategy. None of the treaty-controlled items may be transferred to any recipient whatsoever for prohibited purposes. Parties must take the necessary measures (in the case of the CWC, explicitly via national implementation legislation) to ensure that no nationals, companies or individuals operating on their territory undertake any activities in contravention of the BTWC and CWC. In most cases, states have adopted national export controls to govern transnational transfers. Other economic units, such as multinational companies, laboratories or individuals also bear responsibility for the ensuring the legitimacy of transfers of relevant technologies, although the ability to prosecute negligence

or deliberate malfeasance depends on the quality of domestic penal legislation. Unfortunately, many parties to the BTWC and the CWC have yet to adopt the barest minimum of national measures to implement the conventions and thus deny themselves an important tool to prevent CBW terrorism.

A third pillar of prevention is the universality of the norm. The BTWC and CWC benefit from the high number of ratifications (over 140 states each). Universality increases the chances that a state sponsor of CBW terrorism can be identified. This accords the conventions a deterrent quality. However, the value of the deterrent is directly linked to the treaty verification regime. The BTWC lacks the elaborate verification mechanisms of the CWC, and the failure of the international community to agree on verification and monitoring tools to strengthen the

Comparison of Positive Security Guarantees

	BTWC	CWC
Applicability to Terrorism	Clarification of relevant provisions at 4th RevCon	Any use of toxic chemicals; no actor requirement
Institutional Setup	---	OPCW
Defence	Art. I, 1	Art. II, 9(b); Art. X, 2
Assistance	Art. VII <ul style="list-style-type: none"> • UNSC determines exposure • right to bilateral assistance • role of UNSC implies that only inter-state, not intra-state use of BW is addressed • no clarification at 4th RevCon 	Art. X <ul style="list-style-type: none"> • OPCW determines use of CW following request • automatic procedure • detailed procedures in development • emergency stockpiles; voluntary fund

convention will inevitably hamper international efforts to prevent BW terrorism.

Positive Security Guarantees

The BTWC and the CWC also contain a number of measures designed to enhance the security of individual party states in the event that CBW have been used or when their use is threatened. First, in order to mitigate the threat posed by biological or chemical warfare agents or to deal with the consequences of exposure, both conventions grant parties the right to develop and acquire the necessary means for defence, protection, detection and prophylaxis. This right covers both indigenous development and production and transfers from one party to another. Second, parties also have the right to receive assistance and support from other parties if faced with a CBW threat or use. Third, they also have the right to lodge complaints and to request investigations regarding such threats or use.

The relevant provisions in the BTWC and the CWC cover the use or threat of use of CBW by any actor, be it a state, a terrorist group, a criminal organization or an individual. The language of the CWC does not specify a type of perpetrator; however, only a party state can lodge a complaint or receive assistance. The BTWC, in its original conception, was state-oriented. Through the process of review, conference participants recognized the growing relevance of other actors in international security. At the Third Review Conference (1991), the concept of non-state actor was introduced. Following the 1995 attacks with sarin in the Tokyo underground,

the term 'terrorist' was added to relevant treaty provisions during the Fourth Review Conference (1996).

While both conventions contain similar principles, the means and procedures for implementing them differ considerably (see table). Perhaps the single most important difference is the lack of an institutional organ for the BTWC. The CWC established the Organisation for the Prohibition of Chemical Weapons (OPCW), which is located in The Hague. In the event of CW use (especially

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if the claim of victims is credible) the CWC has a quasi-automatic rapid response mechanism in the sense that the OPCW Director-General can take immediate action without waiting for the approval of the OPCW policy-making bodies. These policy-making organs will play a larger role in the case of the need for further emergency assistance, and the OPCW can coordinate efforts to deal with the consequences of CW use with other states party to the CWC and international organizations. The organization, however, is also tasked to contribute to the development and improvement of the CW protection capabilities of individual parties to the CWC by means of, *inter alia*, expert advice and the organization of national courses for first responders. It is also expected to develop rapid response mechanisms and set up a central stockpile of medical and protective emergency assistance in The Netherlands. The OPCW is currently also developing plans to preposition emergency equipment in various regions

of the world in order to be able to speed up the emergency response. deal with BW terrorism.

These obligations and implementation proposals stand in stark contrast to the BTWC, under which the UN Security Council must determine the exposure to danger. Following such determination, parties to the BTWC have the right to bilateral assistance. The role of the UN Security Council limits the assistance to cases of BW use between states and, as a consequence of the veto power, a party to the BTWC cannot be certain of the confirmation of the right to bilateral assistance by the UN Security Council. Furthermore, the procedure almost certainly precludes an immediate response. The draft protocol to the BTWC, which was negotiated by an ad hoc group of party states and envisaged as a compliance monitoring regime for the convention, contained proposals for the establishment of an Organization for the Prohibition of Biological Weapons. The document also proposed emergency assistance mechanisms modelled on those of the CWC. The US rejection of this document in July 2001 was effectively a rejection of these improved mechanisms to prevent and

Conclusion

The BTWC and the CWC offer a first line of defence against the terrorist use of CBW. Neither offers a cure-all, however, and their future relevance will depend greatly on the development of the respective treaty regimes. The CWC, which is much further developed than the BTWC, incorporates certain provisions with the potential to make it an important instrument in preventing and dealing with the consequences of CW terrorism. While the parties to the BTWC have expanded the understanding of several provisions so as to include BW terrorism, it still lacks concrete obligations for party states for establishing effective defences against BW attacks and coping mechanisms in the event of a terrorist release of pathogens. The failure to achieve a protocol for the BTWC seems to indicate that an emergency assistance action plan like the one developed under the CWC will not be established in the foreseeable future. □

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The University of Georgia

Counterterrorism and the Nonproliferation Regime

From the Editors...

In October of 2000, in a talk at the University of Georgia entitled "The New Terrorism: Hype or Reality?" John Parachini and Michael Moodie chronicled the history of attacks using weapons of mass destruction (WMD) over the past 30 years. The abbreviated list, (which included no cases of nuclear terror, only biological and chemical attacks) made the point that instances in which motivation and means have combined to result in an actual attack have been rare. Will and way are the prerequisites for such attacks and their union has been infrequent. Now, although the WMD capabilities of militant Islamic terrorist groups like al-Qaeda are a topic of dispute, the will to cause maximum devastation and civilian casualties is clear. The attacks of September 11th and the subsequent war on terror have thrust nonproliferation efforts into the spotlight as the United States takes stock of resources

that might be brought to bear in its anti-terror campaign.

Without a doubt, the nonproliferation community has much to contribute to the fight against terrorism. Some of the mechanisms for preventing terrorists from acquiring WMD are already in place and congressional support for nonproliferation efforts is stronger and more widely diffuse than ever. The mainstream press has taken unprecedented notice of the threat posed by poorly guarded WMD and their components in the U.S. and abroad, theft and smuggling of such materials, and nuclear scientists sympathetic to Islamic fundamentalist causes. For those who have been raising the red flag for years, nonproliferation is finally getting the attention it deserves. It seems that, in many respects, the effort to combat terrorism will strengthen nonproliferation institutions.

However, it may be that the new focus on terrorist groups or sub-state actors will divert attention from the problem of state-level proliferation, especially where U.S. allies are concerned. For example, the lifting of sanctions on India and Pakistan in exchange for their cooperation in the current campaign sends the message that the U.S. stance on nonproliferation is equivocal; combating current threats will take precedence over nonproliferation ideals. Moreover, the

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