

Preventing Chemical and Biological Weapons Proliferation

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Introduction

The terms “non-conventional weapons” and “weapons of mass destruction” (WMD) relate to nuclear/radiological, chemical, and biological weapons.

Chemical and biological weapons appeared on the scene many years before nuclear weapons and in fact were used in centuries past. In the fourteenth century, the city of Belgrade managed to defeat the Turkish invaders by burning fabric soaked with poison and creating a toxic cloud. Also in the fourteenth century, the Tatars used corpses infected by the bubonic plague to infect their Italian enemies, and in the eighteenth century, British forces spread blankets infected with smallpox among the Indians in America.¹ In the modern period, chemical weapons were used during World War I by Germany, France, and England, and caused more than one million casualties.

Since then chemical and biological weapons have changed in many ways, but they have remained a constant threat. During World War II and the Cold War, these two types of weapons constituted an integral part of the superpowers’ strategic weapons packages. The United States and Soviet Union developed and armed themselves with large quantities of chemical and biological weapons of various kinds on a range of armaments, including aerial bombs, artillery shells, sprayers, and missile warheads. Additional countries, such as France and England, also equipped themselves with chemical and biological weapons and considered them part of their strategic power.²

Other countries, generally developing or poor countries, followed suit and made efforts to acquire chemical and biological weapons, whether by developing the weapons themselves or by obtaining them from outside sources. These countries generally viewed such weapons as an alternative to nuclear weaponry, which due to their technological or financial inferiority was beyond their reach. This was especially conspicuous in the Middle East, when countries such as Egypt, Iraq, Syria, Iran, and Libya made major efforts to equip themselves with these types of weapons and advanced means of launching them, such as long range ballistic missiles, in order to create a strategic balance of deterrence against the State of Israel, which they believed to be a nuclear state. The Middle East also witnessed the use of chemical weapons on the battlefield, e.g., when Egypt bombers used mustard gas-laden ammunition in its war with Yemen. Other examples were the Iran-Iraq War, in which Iraq used chemical weapons against Iran, causing many casualties, and the Iraqi use of chemical weapons against the Kurds in northern Iraq (Halabja).³

In recent years, the chemical-biological threat has assumed a new, dangerous turn involving global terror. On many levels, chemical and biological weapons are suitable for the goals and modus operandi of terrorist organizations, including the drive to sow fear and panic and cause demoralization. Indeed, various global terrorist organizations, led by Islamic terror groups such as al-Qaeda, have declared that they will not hesitate to use chemical and biological weapons, and there is evidence of their efforts to obtain them. Consequently, contemporary defense and nonproliferation efforts must address this new non-state threat on top of existing state threats.⁴

Over the years, major changes have taken place in chemistry and biology. As a result, it is possible today to develop poisonous chemical materials that are more durable and lethal, with simpler and cheaper production methods. In biology, the revolution in the realm of genetic engineering, biotechnology, and synthetic biology likewise makes it possible to produce deadlier microorganisms through relatively simpler and cheaper means. This development constitutes a major challenge in the related realms of prevention, self-defense, and nonproliferation.⁵

Arms Control: Nonproliferation

The bitter experience of the widespread use of chemical weapons in World War I led to the 1925 signing of the Geneva Protocol, which prohibits use of chemical and biological weapons in war.⁶ It was clear to the great powers that this was a declarative document that could not guarantee adherence by all countries of the world, and thus had to be strengthened with additional regimes that were tighter and more binding. In the following years, the efforts at arms control in the realm of chemical and biological weapons were conducted on a number of tracks: unilateral actions; treaties; and the idea of weapons of mass destruction free zones.

Unilateral Actions

In the 1960s and 1970s, a number of countries took unilateral decisions to destroy their stores of biological weapons on the basis of their respective considerations. In 1969, President Nixon declared that he was ordering the destruction of all stores of biological weapons in the possession of the United States and putting a stop to research, development, and stockpiling of these weapons.⁷ Subsequently, England and France acted in similar fashion, although these states continued and even strengthened their capability of defending themselves against biological and chemical weapons.

There were several reasons behind these countries' unilateral decisions. One was the recognition that biological weapons were immoral weapons that should be taboo. Among the strategic-security reasons, biological weaponry required significant resources but brought with it many questions about its role and effectiveness on the battlefield or as a deterrent. In addition, it was widely believed that eliminating biological weapons would increase the nuclear deterrence of these states.

Treaties

The Biological Convention. The Biological and Toxin Weapons Convention (BTWC), which entered into force in 1975, constituted a turning point in the realms of arms control and disarmament.⁸ This was the first convention to prohibit development, production, and stockpiling of an entire category of weapons of mass destruction. This was also an entirely equal convention for all members and demanded the same commitments of all states. At

the same time, the historical context of the convention largely defined its framework: negotiations on the convention were conducted during the Cold War, when suspicions between the United States and the Soviet Union were at their height, and therefore the convention was a conciliatory document, mainly declarative, that did not include mechanisms for verifying compliance.

Today, 163 countries are members of the Biological Convention. Thirteen countries, including Egypt and Syria, have signed but not ratified it, and a small number of states, including Israel, have not signed or ratified it. Much effort has been made to persuade the non-member states to join the convention, both through the channels of the convention itself, and through states and organizations such as the European Union. Additional effort has been invested in improving the implementation of the confidence building measures and transparency required by the convention, for example, announcements about diseases and epidemics, updates on defense exercises against biological terrorism, and establishment of safety labs.

The Biological Convention contains an inherent problem that is difficult to solve. Research and development of biological elements for purposes of self-defense and for public health purposes is not prohibited. On the contrary, the convention encourages these pursuits, and strongly encourages cooperation between states and the transfer of advanced technologies from developed countries to developing countries. However, it is often difficult to distinguish between offensive research and development and research and development for purposes of self-defense. Therefore, from a scientific-technological point of view it is difficult to develop a mechanism for verification and compliance that will also include close supervision.

Indeed, years of efforts have not borne fruit and thus far there is no compliance and verification mechanism, nor does it appear that there will be one in the foreseeable future. The chief opponent of the mechanism is the United States, apparently out of professional and political reasons. From the professional point of view, the United States claims that since today the methods, research infrastructure, and know-how for offensive and defensive development are very similar or even identical, it is not possible to conduct reliable inspections. Rather, any inspections will incur damage and no benefits. Others claim the American position stems from political reasons, mainly the fear of exposing activity that is contrary to the

principles of the convention and is carried out under the guise of biological self-defense.

For years the convention was reviewed through conferences every five years. In 2002, when the United States blocked the verification effort completely, an inter-sessional process was launched, and every year an experts meeting takes place that deals with subjects related to the convention, such as issues of self-defense, biological safety, and bio-security.⁹ The next review conference is scheduled to meet in 2011, to decide about the continued course and operation of the convention.

Notwithstanding its firm objection to including a verification mechanism, the United States is highly supportive of the Biological Convention. However, it believes that the way to its implementation so that it yields the most benefit is through domestic legislation in member states. In addition, the US urges implementation and promotion of capabilities in the realm of self-defense and disease prevention, namely, development of medical and health systems, cooperation between states, and extensive assistance to developing countries. This policy has been translated into practice and is clearly expressed in the National Strategy for Countering Biological Threats presented by President Obama in 2009 concerning the struggle against natural and man-made biological threats.¹⁰

The Chemical Convention. The Chemical Convention entered into force in 1997 after some twenty-four years of talks and discussions,¹¹ with the two other nonproliferation treaties (the NPT and the BTWC) already in force. As such, the making of the Chemical Convention was able to take advantage of the cumulative experience and the lessons of these two treaties.

Like the Biological Convention, the Chemical Convention is an equal convention, with no exceptional countries. However, in comparison to the two other conventions, it has a sophisticated and intrusive verification, compliance, and monitoring mechanism, as well as clear, well-defined lists of forbidden materials. The convention prohibits the development, manufacture, storage, and use of chemical weapons and calls for their destruction. States that ratify the convention make a commitment to destroy all their stockpiles within a given period, and member states must report all their storage, development, and manufacturing facilities, including civilian

facilities that manufacture materials listed by the convention. Furthermore, regular inspections are held at all declared facilities by the experts from the Organization for the Prohibition of Chemical Weapons (OPCW), the Hague-based organization that manages the convention. The verification mechanism also includes the possibility of a challenge inspection, an inspection on very short notice by OPCW representatives upon the receipt of a well-founded complaint by a member state that suspects a violation by another member state. The sensitive nature of this mechanism aroused serious disputes at the time the convention was drafted, but to this day not a single complaint has been submitted and not a single challenge inspection has been conducted.

Today, 188 nations are members of the Chemical Convention, two states have signed the convention but not ratified it (Israel and Myanmar), and five states have not signed or ratified it (Angola, North Korea, Somalia, Egypt, and Syria).¹² The consensus is that the Chemical Convention, at least in theory, is a success story. States have declared and continue to declare their facilities as required,¹³ and states are destroying large quantities of chemical weapons and chemical materials. Regular inspections are carried out, and it appears that the convention has succeeded in establishing a norm prohibiting the stockpiling and use of these weapons. Yet along with this assessment, there are both assumptions and evidence that certain states are violating the convention, in spite of their being member states.

Arms Control and the Middle East

From political and strategic perspectives the Middle East is one of the most sensitive and complex areas in the world, and this is especially so regarding regional arms control efforts. Several factors make the situation particularly complex:

- a. The State of Israel is perceived as a nuclear state. There is also an assumption that Israel has chemical and biological capabilities.
- b. Israel has formal peace agreements with Egypt and Jordan only. It has no diplomatic relations with most of the countries in the region.
- c. Countries in the region have offensive programs in the realm of biological and chemical weapons. Syria and Iran have operational chemical capabilities, irrespective of memberships in the Chemical or Biological Conventions.

- d. Iran has a military nuclear program and aspires to a nuclear weapon, despite its membership in the NPT.
- e. Israel is not a member of the NPT. It has signed but not ratified the CWC and has not signed the BTWC.
- f. Syria is a member of the NPT, has not signed the CWC, and has signed the BTWC.
- g. Egypt is a member of the NPT, has not signed the CWC, and has signed the BTWC.
- h. Iran is a member of all three conventions.

The states that are members of the Chemical and Biological Conventions and other organizations have invested major efforts to promote the universality of the conventions and influence countries in the region to join them fully. Egypt and Syria have made Israel's joining the NPT a precondition for their joining all such conventions.

In parallel to the treaties, additional efforts, formal and informal, have been made to promote a zone in the Middle East that is nuclear free and free of all weapons of mass destruction. The 1990s ACRS talks in the Middle East with American, Israeli, Egyptian, Jordanian, and European participation were one such example. These talks ultimately reached an impasse; in Israel's opinion, the Egyptian agenda, which focused on nuclear disarmament for Israel, was the principal pitfall.¹⁴ According to a decision of the May 2010 NPT Review Conference, a regional conference may be held in 2012 to consider this issue.¹⁵

Israel and Arms Control

Israel's political and strategic situation in the Middle East is not stable. Most countries and non-state actors in its surrounding first and second circles are not in a state of peace or even have proper political relations with it, and some threaten Israel's existence and declare their desire to destroy it. Some of the states have programs to develop and stockpile chemical and biological weapons, as well as operational arsenals of these weapons. Furthermore, terrorist organizations like al-Qaeda, Hizbollah, and Hamas have declared more than once that for the purposes of destroying Israel, it is legitimate to use non-conventional weapons. It is not inconceivable that as part of the military assistance that these organizations receive from various

countries, they will equip themselves in the future with non-conventional as well as conventional weapons.

Israel regards the aspiration to prohibit the stockpiling and use of non-conventional weapons positively, and sees the elimination of these weapons as an important goal. It certainly supports the principles of the Chemical and Biological Conventions, as well as the goal of a Middle East free of weapons of mass destruction.¹⁶ As part of this policy, in 1969 Israel signed the Geneva Protocol, which prohibits the use of chemical and bacteriological weapons in war. Israel likewise participated in preparatory discussions of the Chemical Convention and has even signed it, thus declaring that it identifies with its goals. While it has not joined the Biological Convention, it has emphasized in both declarative and practical terms that it is a party to the spirit of the convention. Over the years, Israel has also joined a number of processes and dialogues that have attempted to promote the idea of a Middle East free of weapons of mass destruction. These steps by Israel reflect the complexity, the caution, and the suspicion that characterize much of inter-state relations in the region.

Through its identification with the spirit and the norms of the Chemical and Biological Conventions, Israel has an ongoing and fruitful connection with their overseeing institutions, and as an observer participates on an ongoing basis in the meetings, conferences, and seminars that take place in the framework of the conventions' activities. Furthermore, Israel takes additional external and internal initiatives that promote the arms control and nonproliferation goals of the conventions. Thus, for example, Israel supports – and in practice, behaves in accordance with – the supply regimes such as the Australia Group (AG).¹⁷ It supported Security Council Resolution 1540 (2004), whose goal is to combat and prevent the proliferation of weapons of mass destruction to dangerous elements and to fight non-conventional terrorism, mainly through state legislation.¹⁸ Israel is undertaking related legislation and regulations, including control of import and export of nuclear, chemical, and biological materials (2004);¹⁹ control of dual use products (2006); and the export control law (2007). The main goal of import and export controls of nuclear, chemical, and biological materials is to help prevent the proliferation of non-conventional weapons and their components by prohibiting export of materials, products, technologies, and services that can be used in the development

and production of chemical, biological, and nuclear weapons. The list of prohibited materials is identical to international lists that have appeared in the Australia Group regime.

Other noteworthy Israeli initiatives intended to uphold the values of the conventions and enhance nonproliferation efforts include:

- a. Israel has joined the initiative for control of transport of goods on vessels in ports (Proliferation Security Initiative – PSI).²⁰
- b. A professional steering committee that was appointed by the National Security Council and the National Academy of Sciences (2007) has recommended a national control mechanism to reduce, to the extent possible, the flow of dangerous biological elements and dual use technologies to terrorist organizations.
- c. A law passed by the Knesset on the regulation of research on biological disease agents (2008) aims to implement the recommendations of the steering committee and establish a supervisory mechanism on the national level that would prevent the flow of dangerous elements and sensitive information to terrorist elements.²¹

At this stage, the considerations and formal position of the State of Israel on ratifying the Chemical Convention, joining the Biological Convention, and agreeing to a weapons of mass destruction free zone (WMDFFZ) is influenced decisively by the basic political-strategic situation in the Middle East, the position of other regional states towards the conventions and non-conventional weapons in general, the fact that a number of states in the region are stockpiling these weapons, and that at least one (Iran) is clearly violating the treaties to which it is a signatory. Therefore, and in spite of the fact that it ascribes supreme importance to these objectives, Israel believes that in order to attain them significant developments must take place in the region, including mutual recognition of the states, good neighborly relations, confidence building measures, and peaceful relations. Only after these goals are attained can the states in the region continue to take upon themselves additional commitments, first in the conventional realm, and later in the more complex and sensitive realm of the non-conventional. No state needs to unilaterally take upon itself steps that will harm its essential security interests.

Conclusion

The leading channels for control of chemical and biological weapons are the Chemical and Biological Conventions.

The Chemical Convention is managed through its defined guidelines, with the states that declared stores of chemical weapons, chiefly the United States and Russia, continuing the process of destruction, and the OPCW carrying out monitoring and inspection in declared facilities. The Biological Convention is implemented in a completely different fashion, primarily because it is essentially declarative and has no verification and monitoring mechanism. A significant event in this context occurred in 2002, when American opposition blocked the idea of a verification mechanism in the convention; since then experts meetings have been conducted in Geneva to increase mutual trust among member states on the professional topics related to the convention, generally with no political meaning. Prominent among these is Article X, which speaks about encouraging cooperation in permitted areas such as science and technology, public health, and self-defense.

When Obama took office in 2009, and in light of certain declarations early in his presidency, most states that supported the verification mechanism hoped there would be a change in American policy and the United States would support a verification mechanism. However, in late 2009 it became clear that this hope was unfounded. President Obama issued the National Strategy for Countering Biological Threats, in which he included the BTWC as one of the important elements in the realm of arms control and declared that the United States would do all it could to promote and support it. However, at the same time he expressed his vehement objection to a verification mechanism as part of the convention. Against this background, and against the background of a series of experts' meetings that ended in 2010, the member states are preparing for the five-year conference that will be held in 2011 in Geneva, with uncertainty as to the coming goals of the Biological Convention.

Overall, then, the activity around the CWC and the BTWC has strengthened the trends and norms that chemical and biological weapons no longer have a place in the world. On the other hand, the conditions that ensure that all members actually meet all the requirements of the conventions have not yet been created. As for the Middle East, the issue

of arms control – whether on the conventions track or the agreement on a Middle East weapons of mass destruction free zone – is far from resolved. It appears that the parties are upholding their traditional positions, and it does not appear that there will be a serious movement in the foreseeable future unless there is a dramatic change in peace-security relations in the region.

Notes

- 1 R. Thornton, *American Indian Holocaust and Survival: A Population History Since 1942* (University of Oklahoma Press, 1987), pp. 78-79.
- 2 See “Reaching Critical Will,” <http://www.reachingcriticalwill.org/legal/cw/cwindex.html>.
- 3 Javed Ali, “Chemical Weapons and the Iran-Iraq War: A Case Study in Noncompliance,” *Nonproliferation Review* 8, no. 1 (Spring 2001): 43-58.
- 4 J. B. Tucker, *War of Nerves: Chemical Warfare from World War 1 to al-Qaeda* (New York: Pantheon Books, 2001).
- 5 D. Friedman, B. Rager-Zisman, E. Bibi, A. Keynan, “The Bioterrorism Threat and Dual-use Biotechnological Research: An Israeli Perspective,” *Science and Engineering Ethics* 16, no. 1(2010): 85-97.
- 6 See: <http://www.icrc.org/ihl.nsf/INTRO/280?OpenDocument>.
- 7 Jonathan B. Tucker and Erin R. Mahan, *President Nixon’s Decision to Renounce the U.S. Offensive Biological Weapons Program*, Case Study 1, Center for the Study of Weapons of Mass Destruction, National Defense University, (2009), <http://www.ndu.edu/press/lib/images/cswmd/cswmd-1.pdf>.
- 8 See: <http://dosfan.lib.uic.edu/acda/treaties/bwc1.htm>.
- 9 [http://www.unog.ch/80256EE600585943/\(httpPages\)/93D526B706C34C61C1257761005349CC?](http://www.unog.ch/80256EE600585943/(httpPages)/93D526B706C34C61C1257761005349CC?).
- 10 David Friedman, “The US National Strategy for Dealing with Biological Threats,” *INSS Insight* No. 155, January 12, 2010.
- 11 See: <http://dosfan.lib.uic.edu/acda/treaties/cwtext.htm>.
- 12 See <http://www.opcw.org/about-opcw/non-member-states>.
- 13 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 their Destruction in 2009, July 2, 2010.
- 14 Emily B. Landau, “ACRS: What Worked, What Didn’t, and What Could be Relevant for the Region Today,” *Disarmament Forum* No. 2, July 2008.
- 15 <http://www.reachingcriticalwill.org/legal/npt/revcon2010/FinalDocument.pdf>.
- 16 See the speech by Israel’s representative to the OPCW conference in the Hague, December 2009, <http://www.opcw.org/news/article/11th-annual-meeting-of-opcw-national-authorities/>.
- 17 <http://www.australiagroup.net/en/guidelines.html>. The Australia Group includes some thirty states, headed by Australia, which initiated a regime of control and monitoring of import and export of materials and equipment that can be used to

develop and manufacture chemical, biological, and nuclear weapons, as well as the means for launching them.

- 18 UN Security Council Resolution 1540 (2004), 28 April 2004, S/Res/1540 (2004) calls on states to operate and enforce means of preventing the development, stockpiling, and use of non-conventional weapons by terrorist elements.
- 19 http://www.tamas.gov.il/NR/rdonlyres/35E9E31F-AA99-40E9-A750-2AA349FBE588/0/ImportandExport_ControlofChemicalBiologicalandNuclearExport_Order.pdf.
- 20 <http://www.state.gov/t/isn/c10390.htm>.
- 21 <http://ra.haifa.ac.il/RA/BiolDisPerformersLaw.pdf>.