CBW Magazine
Journal on Chemical and Biological Weapons
Winter / July-December 2012
ISSN: 0974-0619

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INSTITUTE FOR DEFENCE STUDIES & ANALYSES

Institute for Defence Studies and Analyses

CBW Magazine

Journal on Chemical and Biological Wepons

Volume 5 Number 3-4 July-Dec 2012

ISSN: 0974-0619

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Editorial

The Chemical Weapons Convention (CWC) Third Review Conference is scheduled to be held between 8 to 19 April, 2013. This is one of the most important events in the CWC calendar. With this upcoming event as the backdrop, this issue of the magazine, attempts to discuss and debate the developments around CWC.

Mirza Sadaqat Huda discusses the Third Review Conference and its relevance to the South Asian region. Ralf Trapp in his article highlights the role of civil society in framing regimes against chemical weapons. He argues that with the constant developments in the field of science and technology the civil society will play an increasingly crucial role with respect to CWC.

In his article Y. Ashok Babu discusses the developments in the biological field namely healthcare. He argues that as India faces major challenges in healthcare, it should work towards building alliances with other countries in the region in order to be able to successfully counter the threats.

This issue also includes other regular features like Country Profile, Kaleidoscope, Chemical and Biological News and Book Review.

With our readers' feedback, we wish to publish issues in the future that focus on a subject of particular concern.

Contributions and feedback are welcome and can be addressed to: editorcbw@gmail.com.

The Third Review Conference of the State Parties of the Chemical Weapons Convention: Relevance for South Asia

Mr. Mirza Sadaqat Huda

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Summary

The Third Review Conference of the Chemical Weapons Convention (CWC) is scheduled to take place in Hague during 8-19 April 2013. The previous two review conferences were held in 2003 and 2008. They stressed on the 'Universality' of the CWC. This conference is also expected to continue along the same principle.

Introduction

The Third Review Conference of the Chemical Weapons Convention (CWC) will take place in The Hague during 8-19 April 2013. The Organization for the Prohibition of Chemical Weapons (OPCW), the implementing body of the CWC, has its headquarters in The Hague, Netherlands and comprises 188 Member States that collectively represent 98% of the worldwide chemical industry. The CWC is the first multilateral treaty to ban an entire category of weapons of mass destruction (WMD) and to provide for the international verification of the destruction of these weapons. It is also a widely accepted as only eight countries remain non-members. Despite the significance of the CWC towards the promotion of international safety and security, particularly in destroying weapons that could lead to significant loss of human life, whether these gains are of any significance in the age of nuclear weapons is debatable.

This article provides a brief outline of the modalities of the CWC and accesses its importance to South Asia in the context of the region's complex security scenario that is underpinned by confrontations between two nuclear armed rivals.

The Chemical Weapons Convention and the Organization for the Prohibition of Chemical Weapons

Opened for signature in Paris in 1993, the primary aim of the CWC is to eliminate chemical weapons as a category of weapons of mass destruction. Through its 24 Articles, the CWC prohibits the development, production, acquisition, stockpiling, retention, transfer or use of chemical weapons by Member States.[1] It also requires Member States to criminalise the

prohibitions listed in the Convention through national penal law and the also to establish competent National Authority to liaise between the State party and the OPCW.

The CWC requires all States Parties to destroy any stockpiles of chemical weapons as well as the facilities which produced them. States Parties have also agreed to create a verification regime for certain toxic chemicals and their precursors in order to ensure that such chemicals are used only for purposes which are not prohibited. The most unique feature of the CWC is the 'challenge inspection', which requires all States Parties to commit themselves to the principle of 'any time, anywhere' inspections with no right of refusal.

Relevance to South Asia

All 8 countries in South Asia are Member States of the CWC. India has already destroyed its stockpile of chemical weapons by 2009. Both Sri Lanka and Pakistan have the capabilities of producing chemical weapons but there has been no concrete proof of either country producing or stockpiling such weapons. The other countries of South Asia do not possess chemical weapons or have the capabilities of producing them. The fundamental question that should be raised is that given that the very essence of security in South Asia is underpinned by the threat of a nuclear confrontation between India and Pakistan, how fruitful is the participation of the South Asian countries in the CWC? In other words, has the proliferation of nuclear weapons in South Asia made chemical weapons obsolete and hence reduced the threat from this type of weapon? Does the CWC contribute to a safer South Asia?

It is true that the advent of nuclear weapons, as well as rapid development of conventional weapons, particularly precision strikes from drones and warplanes as well as the worldwide condemnation of the use of chemical weapons due to their indiscriminate and enduring effects have greatly reduced the motivation of countries to develop and maintain such weapons. However, in the context of South Asia, which remains one of the least integrated regions that is beset by sporadic inter-state and intra- state conflicts, the importance of the CWC cannot be undermined. Most importantly, by forcing all Member States to destroy chemical weapons, the CWC effectively removes a cache of deadly arsenal, the use of which could have the necessary impact to lead to an all-out nuclear confrontation. Even though chemical weapons do not cause the same amount of destruction as its nuclear counterparts, in a volatile, conflict prone region such as South Asia, the importance of removing elements which may lead to an escalation of tensions cannot be underestimated.

In addition, one of the key achievements of the CWC is safeguarding chemical weapons from falling into the hands of terrorists, which has effectively contributed to global counterterrorism efforts.[2] Terrorism has not only plagued individual nations in South Asia, significant attacks in India, particularly the country's Parliament in 2001 and a prolonged attack in Mumbai in 2008 had brought India and Pakistan to the brink of war. Most countries in South Asia have been victims of terrorism in one form or the other. The erstwhile LTTE and Al Qaeda have either possessed or made efforts to acquire chemical weapons.[3] While the terrorist organisations in general prefer using conventional means to perpetrate attacks, their modus operandi is open to change in order to surprise and outpace the security preparations. By keeping a tab on the production of chemicals that have commercial purposes but may also be used for making weapons, the CWC effectively curtails the

misuse of these products by terrorist elements.

In theory, the CWC's mandate to promote international cooperation for peaceful purposes in the field of chemical activities, as well as facilitation of free trade in chemical products, if properly utilised, can act as confidence building measure in South Asia. Having said that, to assume that the success of the CWC can create an environment in South Asia which is conducive to cooperation on nuclear weapons or reduce the procurement of conventional military weaponry, would be an overestimation of its impact.[4]

Conclusion

The previous two review conference held in 2003 and 2008 stressed on the 'Universality' of the Chemical Weapons Convention. This conference is expected to continue along the same principle of urging non-member countries to join, as well as make an assessment of the implementation of the CWC by Member States, both in the realms of destroying weapons as well as controlling proliferation of dual purpose chemicals. In regard to South Asia, one of the most significant aspects would be the role of Myanmar, or lack thereof. Naypyidaw has signed but not yet ratified the CWC. The international community's efforts to reengage Myanmar, and its porous, conflict-prone borders with Bangladesh and India, make it important for South Asia as a whole, for Naypyidaw to initiate the process of destroying chemical weapons. To that extent South Asia has much to look forward to as far as the upcoming Review Conference is concerned.

Endnotes:

[1] 'About the OPCW', Organization for the Prohibition of Chemical Weapons Website, http://www.opcw.org/about-opcw/

[2] 'Political Declaration of the First Special Session of the Conference of the State Parties to Review the Operation of the Chemical Weapons Convention', OPCW, 9 May 2003 at http://www.opcw.org/documents-reports/conference-states-parties/first-review-conference/

[3] 'Chemical Warfare and Terrorism: the risks cannot be ignored' Sangeeta Debashis, South Asia Analysis Group, Paper no 402, February 2002 at http://www.southasiaanalysis.org/paper412

[4] South Asia's ratio of military expenditure as a percentage of GDP is one of the highest in the world. According to a 2009 report by the Stockholm International Peace Research Institute (SIPRI), during 1998–2008 emphasis on defence budgets resulted in a 41% increase in military spending in the region—from $21.9 billion in 1999 to $30.9 billion in 2008.

NBC threats and India's Preparedness

Ms. Soumya Tiwari

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Summary

With new developments in the field of science and technology it is becoming very tough for countries to change the level of security preparedness. It is also becoming increasingly difficult for a country to undertake correct threat assessment. While the state's security is relatively assured with the obsolescence of major wars, the non-state actors are found using innovative techniques to spread the divisive politics.

The bombing of Hiroshima and Nagasaki had come as a major surprise to the international community primarily because the massive destructive capacity of the atom was only fictional before then. Today, with technological development outpacing security preparedness, it is becoming increasingly difficult for a country to undertake correct threat assessment. While the state's security is relatively assured with the obsolescence of major wars, the non-state actors are found using innovative techniques to spread the divisive politics. It is a well known fact that in the past terrorist groups have tried to access and used in some cases the nuclear, biological or chemical (NBC) means to spread terror.

Even as the War on Terror enters its decisive stage, the threat of weapons of mass destruction (WMD) proliferation by terrorist organisations is a major challenge for the international community; there is a need to tackle this issue jointly. India shares global concern on nuclear terrorism and clandestine proliferation, which pose serious threat to international security.[1] In addition to nuclear, India faces major concerns with respect to chemical and biological weapons too.

The threats from chemical and biological weapons are real; these weapons have been used in the past and the degree of damage which they have unleashed is serious. As the largest country in South Asia, India faces an important question of preparedness against these threats. On being asked about India's preparedness to face Nuclear, Biological and Chemical (NBC) attacks, Defence Minister of India replied in the Parliament that India has Quick Reaction Medical Teams to counter asymmetric warfare scenario like NBC attack.[2] In this context, this article seeks to explain the issues related to the WMD threats.

Threat Assessment

In the keynote address at a National Export Control Seminar at Institute for Defence Studies and Analysis (IDSA) on 18th April, 2012 Foreign Secretary Ranjan Mathai mentioned that 'the danger of terrorists gaining access to WMDs is a facet to this grave threat'.[3]Any WMD attack may not have a major impact at the initial stage, however the long term effects of this can be quite harmful. With the global economic system being increasingly dependent on supply chains, it can have a cascading impact on productivity if transportation networks were to be disrupted.

The Non–state actors either independently or in collusion with state adversaries can use a proxy. As per *International Atomic Energy Agency's (IAEA) report*, there have been nearly 300 attempted smuggling incidents of NBC materials during the last decade.[4] An explicit war may be a distant possibility but the threat of non-sate actors' unleashing a foray of chemical and biological weapons can definitely wreak havoc. Rogue states and regimes out of the CWC and BTWC need to be brought into the global preventive frameworks. The most recent reference to the possible usage of 'dirty bomb' was in the wikileaks reports which said that the al-Qaeda was likely to achieve faster results while developing the dirty weapons, for possible use against British troops in Afghanistan.[5]

Globalisation and NBC Threat remains an important areas of concern. Establishment of competent national strategic trade control system for the purposes of preventing the spread of WMDs and dual use technologies that facilitate their development is an important requirement.[6] Urgent efforts must be undertaken to develop norms that facilitate these control mechanisms without necessarily hampering the global economic engagement.

India's Options

In the report submitted by India at Seoul Summit it was mentioned that India had invited the Operational Safety Review Team of the IAEA to assist in its own safety review and audit. India is party to the Convention on the Physical Protection of Nuclear Materials. It also supports the implementation of the UNSC Resolution 1540 and its extension, Resolution 1977 which aims to prevent terrorists gaining attention to the WMDs. India is also a participant in the IAEA's Illicit Trafficking Database (ITDB) which disseminates information on confirmed reports about illicit trafficking and other unauthorized activities.[7]

National Policies:

With the aim of combating the threat the Defence Research and Development Organisation (DRDO) came out with a next generation radiological defence equipments to counter the threat of 'Dirty Bomb' in the beginning of 2012 .[8] These equipments, worth Rs 1,200 crore have been developed by the DRDO in collaboration with the Ministry of Home Affairs. The deterrence against NBC can be achieved from a range of equipment and technology including detectors and reconnaissance vehicles along with other equipments like nanotechnology based sensors, micro UAVs, dosimeters which can measure an individual's or an object's exposure to hazardous exposure in the environment, also Portable gas chromatographs which is used for testing the purity of a particular substance, and roentgen meters which is used for measuring the cumulative quantity of x-rays or ã-rays. Besides, there are also advanced inflatable shelters which can withstand water threats and ward off solid NBC agents for at least 48 hours.[9]

The DRDO Project works on the public-private partnership model and around 85 per cent of the NBC defence inventory is developed for the Indian Armed Forces. It is also important to note that the Indian Navy has set up a NBC defence training facility to develop the skills of its personnel in fighting such attacks during conventional wars or terror strikes. [10]

Roadmap

- Stakeholder engagement is an important process that needs constant attention; it is important to engage various non-governmental agencies, organisations and individuals towards building an architecture of security. A successful system requires close working relationships between government ministries, national agencies and the industry.

- The private sector can play an important role in strengthening the security system in the country. For example, the Terminal 3 of Indira Gandhi International Airport (IGIA) has installed an impressive list of security equipments procured from private manufactures.[11]

- Effective and quick response system as well as coordination in case of an accident or attack is critically important. Training and education aimed at this objective can help in important ways. The National Disaster Management Authority of India (NDMA) has mandated constitution of National Disaster Relief Force (NDRF) which comprises of eight battalions at eight different locations. NDRF conducts regular training for other security forces like Border Security Forces (BSF), Central Reserve Police Force (CRPF), Central Industrial Security Forces (CISF) and Indo-Tibetan Border Police (ITBP). The NDRF NBC combat team consist of 300 personnel i.e. 75 personnel each.[12]

- Also, there is an urgent need for enhancing the technical capabilities in the field of inspection and detection of nuclear, chemical and biological materials at the borders. Further, establishing a team capable of launching NBC shelters for the forces at the borders will be helpful.

- Community preparedness needs to be encouraged through sensitising and there is a need to define the role of public, private and corporate sectors for their active participation during disasters and otherwise. Further, each state government should come out with the Disaster Management (DM) Plan and it should be implemented on the guidelines of NDMA.[13]

Even as the cross-border security threats and internal security remain the country's primary concern, NBC threats also have destructive potential. The Indian security establishment Forces has an important security mandate in this respect. However, attention to detail, planning and inter-agency coordination can help in many ways to achieve the object of national security against NBC weapons.

Endnotes:

1 The Indian Prime Minister Dr. Manmohan Singh's Speech at the Plenary of Seoul Nuclear Security Summit , March 27, 2012 http://pmindia.nic.in/press-details.php?nodeid=1403

2 Press Information Bureau, Government of India, Ministry Of Defence, December 12,2011http://www.pib.nic.in/newsite/erelease.aspx?relid=78426

[3] Keynote Address by Foreign Secretary Sh. Ranjan Mathai at Institute For Defence Studies and Analysis (IDSA) April 18 2012 http://www.idsa.in/event/KeynoteAddressbyForeignSecretaryShriRanjanMathai

[4] Paper Series : Measures to Prevent , Intercept and Respond to Illicit Uses of Nuclear Material and Radioactive Sources...Historical Evidence of Terrorist Incidents or Threats which have Involved Nuclear or Radiological Material, and Forecasts about the Future. Page no.40, http://www-pub.iaea.org/mtcd/publications/pdf/csp-12-p_web.pdf

[5] The Telegraph, 02 Feb 2011, WikiLeaks: al-Qaeda 'is planning a dirty bomb' , http://www.telegraph.co.uk/news/worldnews/wikileaks/8296956/WikiLeaks-al-Qaeda-is-planning-a-dirty-bomb.html

[6] Carnegie Endowment for International Peace; Policy Outlook; "Preventing WMD Proliferation:- Myths and Realities of Strategic Trade Controls by Togzhan Kassenova; January 25, 2012.

[7] Nuclear Security Summit, Seoul, March 2012, Information on National Progress of Participating States, National Progress Report India.

[8] DRDO works on next-generation radiological defence equipment, January 3, 2012 http://articles.timesofindia.indiatimes.com/2012-01-03/india/30584385_1_nbc-defence-defence-equipment-drdo-chief-controller

[9] DRDO builds defence against dirty bombs, January 3, 2012 http://articles.timesofindia.indiatimes.com/2012-01-03/india/30584152_1_nbc-reconnaissance-vehicles-defence-equipment-drdo

[10] Ibidhttp://www.smithsdetection.com/1025_5446.php

[11] Smiths Detection Equips Delhi's New Airport Terminal, New Delhi, India, August 19. 2010 http://www.smithsdetection.com/1025_5446.php

[12] NDRF NEWS; Newsletter of the National Disaster Response Force, India

[13] National Disaster Management Guidelines—Management of Nuclear and Radiological Emergencies, 2009.A publication of the National Disaster Management Authority, Government of India.

Global Health Security for Collaborative Countering of Bio-threat Agents and Infectious Diseases

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Summary

In the post globalisation era, countries around the globe have teamed up to cooperate on various issues which include issues related to environment security to maritime security. However there have been very very few steps develop global health security. Most of the national support to this issue is limited only to contributing miniscule amount of money to WHO by developed and developing countries and handling it as a part counter-insurgency strategy. As a result, health security has been limited to a national issue.

Biological weapons are termed as "Poor man's nuclear bomb" as they require less sophistication when compared to that of nuclear weapons making it easier and cheaper to produce and use. Biological weapons' self propagating and persisting property makes them highly lethal. At the same time, due to development in advanced medical technologies in diagnosis and treatment of many pathological agents and associated risk of using biological agents for own population has made the poor man's bomb ineffective and minimal to use it in a war scenario. However, since the threat perception itself has enormous impact on the population and the financial stability of a country, the threat of use of biological agents by terrorist organisations and other non-state players has emerged. Thus, Biological agents can be renamed as "Rogue man's nuclear bomb".

Why Global Health Security?

Recent cases of emerging diseases such as SARS, H1N1, and outbreak of dangerous viral hemorrhagic fever in African countries have adversely impacted many nations including India. The rapidity and virulence of these pathogens fanned them to spread across the globe with ease and the national healthcare system of many developed countries failed to contain repeated outbreaks of these pathogens. One of the important causes of the repeated outbreaks of such infectious diseases is the lack of good healthcare infrastructure in the countries where the diseases originated. Thus, it is no longer a problem of a single country and all the nations in vicinity need to be involved to prevent and contain the spread of infections.

In the post globalisation era, countries around the globe have teamed up to cooperate on issues ranging from environment security to maritime security

but very few steps were taken to develop global health security and most of the national support to this issue is limited only to contributing miniscule amount of money to WHO by developed and developing countries and handling it as a part counter-insurgency strategy. Nevertheless, health security has been limited to a national issue. However, in 2001 an alliance was formed between G7 nations to form Global Health Security Initiative (GHSI) to collaborate in the area of health security ranging from talking pandemic outbreak of infections to surveillance and protection against chemical, biological, radiological and nuclear (CBRN) threats, but the cooperation is mostly limited to surveillance against CBRN threats and has not developed any infrastructure in the poor and developing countries for helping them come out of the frequent pandemics of infectious diseases including Class –A bio-threat agents in these regions.

Due to rapid globalisation and climatic changes, some of the these infections reemerged in developing countries too for example XDR, MDR tuberculosis, recent outbreak of H1N1, SARS, and increased activity of extremist elements across the world has increased possibility of use of biological agents by sovereign countries. Let us discuss the positive aspects of the global health security and constraints for implementing it and how it helps protection from bio-threat agents; first and foremost, the global health security involves sharing of infrastructure and collaborative R&D between countries for prevention and protection from potential health risks, proactive and direct involvement of different countries in the WHO programs by establishing international research and development infrastructure and unconditional sharing of information with other participant nations. Collaborative disease surveillance and intelligence sharing are the first step for the promotion of global health security; this would ensure early warning of the possible outbreak of any infectious disease or bio-terrorism and effective implementation and dissemination of preventive measures to contain the spread of disease.

Genetic engineering and advanced medical biotechnology has helped in combating diseases advanced recombinant vaccines by manipulating genes of pathogens but at the same time, the possible risk of using these techniques for making more virulent and more drug resistance pathogens has emerged. For example, virus causing H1N1 is a mutant of less virulent animal flu and avian flu viruses and has developed naturally in a spontaneous manner over the years. However, development of these mutant pathogens in laboratory condition using recombinant DNA technologies is much easier and quick. Given the fact that the development of bio-threat agents require less sophistication and less costly equipment compared to that of other WMD, there is an immense possibility of non-state players using biotechnological tools to initiate bio-terrorism. Exploitation of such resources under a weak or rogue regime or by the non-state players poses serious threat to the mankind. Global health security initiative will help in tackling such emerging threats by sharing infrastructure and health and security intelligence for effective mitigation of bio-threats.

For any country, the development of health infrastructure involves investment of huge amount of financial and human resources, which is a difficult task for poor and developing countries. The WHO is working with funding from developed and some of the developing nations to improve health sector in these areas but due to constraints of funds and frequent geo-political disturbances, the efforts of WHO is limited to primary support during outbreak and as an advisory

organisation in routine situations. The crucial issues of strengthening the R&D infrastructure, disease surveillance and intelligence related to bio-threat agents remained un-attended in the majority of poor and developing countries. Direct participatory contribution of different countries in the specific areas of development of infrastructure to combat infectious disease and classified bio-threat agents will ensure protection of mankind from natural or manmade biological disaster in a realistic manner.

To summarize the key points of Global Health Security, cooperation of member countries in the following areas can go a long way in helping improving security from epidemics and bio-threats;

1) Sharing the cost of developing R&D infrastructure,

2) Collaborative surveillance of infectious diseases and bio-threat agents,

3) Collective countermeasures in the event of natural, accidental and manmade biological disasters,

4) Supporting poor and developing (Participating and Non participating countries) to develop healthcare infrastructure to make them self-sustaining to prevent spread of infectious diseases,

5) Unconditional sharing of intelligence related to Bio-threat agents,

6) Surveillance and safe guarding the advanced life science technologies from misuse by rogue elements and non state players.

Current Trends on International co-operation to counter Bio-Threats:

Post pandemic attack of Avian Flu, the G7 countries and European Union formed an alliance named Global Security Initiative to monitor and prevent infectious diseases and surveillance against use of biological weapons and preparedness in the event of their use. National strategy for countering biological threats by USA has included global health security programme in a prominent way to protect the citizens from exotic pathogens, and to monitor and prevent misuse of life-science revolution by non-state players. European Union has also adopted similar resolution to counter CBRN threats in close cooperation with GHSI member countries. As mentioned earlier, the activities of GHSI remained a collaboration between the G7 nations with most of the financial resources spent on development of national resources to counter the bio-threats. However, the scope of GHSI to expand to more nations including poor and developing countries will be more effective and realistic in ensuring global health security.

Indian subcontinent remains hotspot for many of infectious diseases with highest mortality rate reported due to infectious disease after Africa. This is attributed to poor healthcare infrastructure and high population in these regions. High density population in Asia makes the region most vulnerable to the spread of infectious diseases when compared to the less populated western countries. India needs to play major role in forming a similar alliance with other Asian countries to develop health security infrastructure and collaborative surveillance for countering biological threats

in this region. As the threat of using biological agents by non state actors is immense in the Indian subcontinent, collaborative surveillance and cooperation with neighboring countries and teaming with GHSI could ensure national health security against infectious diseases.

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Civil Society, Chemical Industry and the Chemical Weapons Convention

Dr. Ralf Trapp

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Summary

Civil society has played a very important role in the framing of the regime against chemical weapons. Following the adoption of the Biological Weapons Convention in 1972, Civil society actively supported negotiations that led to the adoption of the Chemical Weapons Convention (CWC) in 1992. However after coming into force the relationship between CWC and Civil Society underwent an important change.

For many years, civil society has played an important role in the framing of the regime against chemical weapons. The 1925 Geneva Protocol, which prohibits the use of poison gas and bacteriological (biological) weapons, was in no small amount the result of public outrage over the use of poison gas during the First World War. Although a cornerstone of international humanitarian law, the Protocol did not stop the development of chemical weapons and the build-up of chemical weapons arsenals. Neither could it altogether prevent their use, most recently in the Iran-Iraq War. The recent developments in Syria once again brought to the fore the grave dangers associated with the very existence of chemical weapons.

Discussions about extending the regime against chemical weapons by prohibiting their development, production and stockpiling began right after the adoption of the Geneva Protocol in the League of Nations. After the Second World War, chemical weapons disarmament was again taken up in the context of talks about general and complete disarmament. Following the adoption of the Biological Weapons Convention in 1972, work towards the CWC began in what is today known as the Conference on Disarmament.

Civil society actively supported these negotiations that eventually led to the adoption of the CWC in 1992. As early as 1970 – 1972, the Stockholm International Peace Research Institute (SIPRI) hosted an East-West expert working party on Phosphorus accountancy that studied the possibilities of verifying the non-production of nerve agents. Since 1974, the international Pugwash movement has been organising workshops to discuss policy, legal and technical issues of chemical weapons disarmament. These included visits to

chemical plants in the late 1970s (in West Germany, the USA and Sweden), and again alongside the negotiations during the 1980s (in the Netherlands, the former GDR and other countries). Pugwash provided an informal platform for negotiators and experts to pursue issues that were not yet ripe for negotiations. This brought expertise from industry as well as academia into the treaty negotiations and ensured that the views of these stakeholders were taken into account. Practical measures included the 1991 Sipri/Pugwash study on the "Verification of Dual-use Chemicals under the Chemical Weapons Convention: The Case of Thiodiglycol", which clarified many technical issues related to industry verification. At the same time, the impact of civil society went well beyond providing technical expertise alone. A key example was the 1989 International Government-Industry Conference against Chemical Weapons in Canberra which underlined the full support of the world's chemical industry for a global ban on chemical weapons. This support of civil society and the chemical industry was critical to many countries' CWC ratification.

After the entry into force of the CWC, the nature of its relationship with the civil society underwent an important change. Some NGOs took on the role of "service providers" to help with the implementation of the treaty, for example by publishing reviews and analyses in The CBW Conventions Bulletin, or preparing briefing books for Review Conferences and meeting summaries of annual sessions of the Conference of the States Parties. At the same time, Chemical industry opened its plants and training facilities for OPCW inspector training. Today, it supports the OPCW's Associate Programme. A productive relationship has evolved between the OPCW Scientific Advisory Board and the International Union for Pure and Applied Chemistry (IUPAC), bringing valuable scientific input to the OPCW. In 2007, the OPCW invited experts from governments, industry, academia and civil society to its Industry and Protection Forum and its Academic Forum.

What is it that civil society can contribute to the implementation of the CWC today? Here are some examples:

- **Provide Technical Assistance**; for example, the University of Surrey provides training in the Associate Programme; SIPRI and VERTIC provide assistance in national implementation.
- **Help raise Awareness and promote Education and Outreach;** for example, UPAC works on a code of conduct, national chemical societies help with outreach, and the chemical industry has included CWC compliance in its Responsible Care ® program.
- **Help with Problem Definition and Provide Technical Expertise;** for example, IUPAC's reviews of the impact of science and technology and the convergence between chemistry and biology.
- **Public Advocacy;** for example, NGO's are involved in ratification efforts in many countries and support for universalizing the process.
- **Agenda Setting;** for example, by identifying regional issues and priorities such as in the OPCW's Africa initiative.
- **Monitoring Implementation;** for example, with regard to the issues around riot control agents and the purported use of incapacitants in law enforcement.

Civil society is a partner of governments and the OPCW in the implementation of the CWC. As science and technology continue to make

rapid progress, this partnership will become even more important for the full and effective implementation of the CWC.

Reference:

[1] Some of the material used in this paper has been adapted from: Caitríona Mcleish and Maarten Lak "The Role of Civil Society and Industrial Non-state Actors in Relation to the CWC", draft book chapter of the planned "Commentary on the Chemical Weapons Convention" (Editors: E. Myjer, W. Krutzsch and R. Trapp), Oxford University Press 2013/2014

Chemical Weapons Profile of Angola

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Summary

Angola, a country in southern Africa, which has no officially confirmed history of possession and use of chemical weapons by the state. However, it should be noted that South Africa, in defence of its earlier chemical and biological weapons programme, often cited the capture of chemical detection and decontamination equipment and treatment systems in Angola. There were instances of chemical weapons being used inside Angola when it was under Portuguese colonial rule.

The year 2012 signifies the 15th anniversary of the entry into force of the Chemical Weapons Convention (CWC), an international agreement that prohibits all activities related to development, production, stockpiling and use of chemical weapons and promotes timely destruction of existing stockpile.[1] With 188 state parties, which translate into 98 percent of the world's population, the Convention is one of the most successful international treaties with near universal membership. Only a handful of countries did not accede to the convention. These countries are Angola, Egypt, the Democratic People's Republic of Korea, Somalia, South Sudan and Syria, which have neither signed nor ratified the Convention; and Israel and Myanmar which have signed but not ratified the treaty. On the other hand, during the 17th session of the Conference of the States Parties (CSP) to the CWC, held in November 2012 at The Hague, Netherlands, UN Secretary General Ban Ki-moon stated that "if a world free of chemical weapons is to be fully realised, it is crucial that these eight states join without delay".[2] Since the third Five-Year Review Conference of the States Parties to the Convention is scheduled to be held in April 2013 in The Hague, it is appropriate to study the case of Angola.

Use of Chemical Weapons in Angola

Angola, a country in southern Africa, has no officially confirmed history of possession and use of chemical weapons by the state. However, it should be noted that South Africa, in defence of its earlier chemical and biological weapons programme, often cited the capture of chemical detection and decontamination equipment and treatment systems in Angola during the 1980s as concrete evidence to argue that the People's Movement for the Liberation of Angola (MPLA) and Cuban forces were prepared to

use chemical weapons against the then South African Defence Force (SADF). South Africa also claimed that the Western European Defence Alliance (WEDA) endorsed a chemical attack on the National Union for the Total Independence of Angola (UNITA) by the MPLA.

Historically, there were instances of chemical weapons being used inside Angola when it was under Portuguese colonial rule. It was reported that on May 1, 1970, the Portuguese began chemical warfare against the people of Angola by spraying chemical defoliants and herbicides over the cultivated areas of "liberated regions" in Angola, thereby destroying the harvest and killing hundreds of people.[3] Some of those chemicals used by the Portuguese included:

- 2, 4-D (2, 4 dichlorophenoxyacetic acid),
- 2, 4, 5-T (2, 4, 5 trichlorophenoxyacetic acid),
- Cocadylic acid, and
- Picloram.[4]

These chemicals are highly poisonous and were known to cause digestive problems, the vomiting up of blood, and respiratory diseases. Particularly, the chemical 2, 4, 5 trichlorophenoxyacetic acid acts on pregnant women, causing congenital malformation; Cocadylic acid contains arsenic and is used as a lethal dose; and Picloram is so toxic that in a test conducted in a Puerto Rican equatorial forest, trees sprayed with Picloram remained without leaves for over two years. Strongly opposing the use of chemicals by Portugal against Angola, the then president of the MPLA, Agostinho Neto, appealed to U Thant, the then Secretary General of the United Nations to condemn Portugal's resort to chemical warfare against the people fighting for independence.[5]

Immediately after achieving independence in November 1975, Angola slipped into a civil war that continued until 2002. The civil war was primarily a struggle for power between two former liberation movements, the MPLA and the UNITA, supported by opposing camps during the Cold War period.[6] Hence, the civil war witnessed sporadic intervention with chemical weapons by major powers of opposing camps. For example, an investigation by the UN and the World Health Organisation found that during the 1978 "mass murders at Kassinga" in Angola, conducted by the South African Special Forces, victims were paralysed with gas before they were shot dead.[7]

At the same time, there was evidence to suggest that the MPLA government in Angola used chemical weapons, acquired from the Cubans, and backed by Russian and the erstwhile East German supporters, in counter-insurgency operations during the 1980s. Brig Isidro Peregrino Chindondo, the intelligence chief of the UNITA, complained that the Soviet-aided government troops used chemical weapons in the civil war, which killed three rebel fighters, blinded several others and turned leaves on trees "totally dark".[8] He explained that the government air and ground units used a "toxic agent" that emitted a yellow and green vapour in battles at Bie in June, 1986, at Lucusse in July, 1986 and at Cuito Cuanavale in August, 1986.

New allegations of chemical weapons use by government forces in Angola were leveled in 1993. In January that year, the UNITA accused the MPLA of dropping chemical weapon bombs on the city of Ndalatando and also against civilians in the city of Huambo.[9] However, the attention was diverted to the cases of so-called "steppage-gait" syndrome that were reported by UNITA forces between 1986 and 1990.[10] Although no samples were collected from the area where the syndrome was reported, a number of

hypotheses, including chemical weapons use, were put forward to explain the symptoms of those affected. Later in the year 2000, the Angolan Army announced that it found chemical weapons in a UNITA arms cache in the central highlands.[11]

Reasons for Angola not signing the CWC:

Given this background, notwithstanding the optimism expressed by the then Director General of the Organisation for the Prohibition of Chemical Weapons (OPCW), Rogelio Pfirter, who stated at the 2007 Conference of the States Parties that Angola "fully supports" the CWC, Angola does not seem any closer to accession.[12] There are different reasons for Angola not signing the CWC, which can be illustrated as under.

1. Firstly, as pointed out by Rogelio Pfirter, Angola is constrained by logistical and resource crunch rather than political issues. This is despite the fact that Angola is one of the fastest growing economies of the world, with an annual average GDP growth rate of 11.1 percent between 2001 and 2010.[13] The nearly three decades-long Angolan civil war had profoundly exhausted economic resources of Angola and as a result, Angola remained poor with a third of its population dependent on subsistence agriculture despite having extensive oil and gas resources, diamonds, hydroelectric potential, and rich agricultural land. Since 2002, only after the end of Civil War, the country began to build and improve infrastructure and also developed political and social institutions.

2. Secondly, Angola has no serious threat to its security since the end of civil war except for the issue of expulsions with the Democratic Republic of Congo. Following the end of Cold War, the external relations of Angola have also been peaceful and cordial with its neighbours including South Africa, with which it had differences during civil war. This also meant end of ideological struggle between the capitalist and communist blocs and as a result, Angola's approach to security changed in a substantial manner. The mutual defence pact with Namibia in 1999 further enhanced security, especially in its southern part. As a result, Angola feels less vulnerable and does not consider the need to adhere to the CWC to get security assurances from external powers.

3. Thirdly, Angola has a relatively small chemical industry spanning over six segments namely, base chemicals, agricultural chemicals, specialty chemicals, consumer chemicals, construction chemicals, and chemicals relating to oil and gas.[14] These chemicals are mostly used in daily requirements and are not meant for weaponry development. At the same time, since the industry in Angola is not well developed, these chemicals are being imported mainly from the United States to meet local requirements. Thus, Angola feels that since there are no chemical weapons in Angola there is less urgency in signing the CWC that prohibits proliferation of chemical weapons.

4. Another issue that is preventing Angola from becoming a party to the Convention is the issue of transparency. It is to be mentioned here that of the 188 states party to the Convention, only seven countries have declared their chemical weapons stockpiles and the demilitarisation programme in these countries is in various stages of completion.[15] Other countries, which possess clandestine chemical weapons, are yet to announce their demilitarisation efforts. Due to this legacy of secret

weapons programme, the demilitarisation of chemical weapons is taking more than the stipulated deadline. This is preventing Angola from trusting the universal elimination of chemical weapons as pronounced by the Convention.

5. In Addition, there is also apprehension in Angola about proliferation of chemical weapons and it has undertaken efforts to face any such emergency. For instance, the official Angolan news agency, *Angop*, reported in July 2010 that 30 officers from the Angolan armed forces attended a 15-day workshop at the command centre of the fourth infantry division in Kuito, central Bie province, aimed to educate officials on defence against chemical weapons, especially in the central military region.[16] During the workshop, deputy Commander of the fourth division, Adelino da Conceicao Botelho de Carvalho, remarked that the seminar took place at a time when the armed forces, particularly the land forces, were making an effort to reform the system of defence against chemical weapons in the African country. He stressed that mass extermination defence is one of the most complex provisions in combat units aimed at preventing the troops from being infected with chemicals and reducing the threats of weapons of mass destruction to maintain the capacity of the military and to ensure the success of missions.

Why Angola should Sign the CWC:

I. On the other hand, the need to prevent the proliferation of weapons of mass destruction (WMD), except for the peaceful use of nuclear, biological and chemical materials, is an accepted norm amongst virtually all African States. As a result, there is an almost unanimous rejection and an unequivocal ban of chemical weapons in Africa, which is testified by a near universal membership of 50 African states to the CWC out of a total of 54 states. Angola remains one of the few exceptions. However, it remains important to promote accession of the remaining states not yet party to the Convention and to achieve that the non-signatory countries should invariably be invited to participate in the Conference of the States Parties and also in regional and sub-regional meetings of the OPCW.

II. Second, during the 16th Summit of the Non Aligned Movement (NAM) in Tehran in August 2012, the member states issued a statement, calling for total eradication of chemical weapons throughout the world.[17] The members also expressed concern over the fact that certain countries that possess chemical weapons have failed to comply with their obligations regarding the total destruction of chemical weapons stockpiles within the final extended deadline of April 29, 2012, and called upon them to fulfill their commitments. As a member of NAM, it is the responsibility of Angola to comply with the sentiment. For this, Angola needs to act immediately by signing the CWC.

III. Third, the verification provisions of the CWC pertain not only to the military sector but also the civilian chemical industry through certain restrictions and obligations regarding the production, processing and consumption of chemicals that are considered relevant to the objectives of the Convention. It should be noted that CWC prohibits trade in certain chemicals with countries not party to the treaty and its provisions include promoting trade in chemicals and related equipment among State Parties. In case

of Angola, since its chemical industry is substantially depended on imports from external sources, accession to the treaty would expand avenues for cheaper imports from abroad.

IV. Fourth, the Convention also contains provisions on assistance in case a State Party is attacked or threatened with attack by chemical weapons. Thus, accession to the convention protects Angola from future possible threats to its security.

V. Fifthly, contrary to the apprehension of Angola, the threat of proliferation is much smaller in the case of chemical weapons when compared to nuclear or conventional weapons.[18] This is because, many of the chemical weapons of today's arsenals are aging and dangerous to transport. Second, it would be cheaper in most cases for a country desiring chemical weapons to produce them domestically than to buy them in the illegal arms trade market. Third, the quantity of chemical weapons needed in order to pose a significant threat is large, and an illegal transfer of a significant quantity of chemical weapons would be difficult to hide. Finally, a country would not want to import chemical weapons unless it had sufficient chemical protection and training for its forces, a costly undertaking.

VI. Lastly, Angola claims that it has no recorded history of possession and use of chemical weapons. However, it does not guarantee that the country cannot and would not make chemical weapons in future. This is primarily because any nation with a sizable chemical industry, particularly for making fertilizers and insecticides, can manufacture chemical agents. Therefore, it is essential to ensure that Angola adheres to the CWC to prevent it from conducting clandestine chemical activities any time in future.

Conclusion

To conclude, despite 15 years of operation, some suspected chemical weapon possessor states remain outside the CWC regime. Immediate efforts should be made to bring these counties under the CWC umbrella, which will enhance trust and confidence in CWC for countries like Angola who would join thereafter. Until the whole world is open to inspections, one can never be certain that all chemical weapons have been fully destroyed and that no banned chemicals are being secretly produced or traded.

Under the OPCW's supervision, more than 43,000 metric tons (nearly 78 per cent) of the declared stockpiles of chemical weapons were successfully destroyed since the Convention's entry into force in April 1997. At the same time, estimates suggest that almost 30,000 metric tons of chemical agents still await destruction.[19] Besides the destruction of remaining stockpiles, a key future focus should be on preventing the reemergence of such lethal weaponry. Meanwhile, terrorist organisations have reiterated their intention to obtain weapons of mass destruction, raising the stakes to secure and eliminate chemical weapons stockpiles as quickly as possible and strengthen the CWC nonproliferation and inspection regime.

Endnotes:

1 The Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction or the CWC aims to eliminate chemical weapon, a category of weapons of mass destruction. The Convention was adopted by the General Assembly on November 30, 1992 and entered into force on April 29, 1997, after its ratification by Hungary.

2 "The UN Secretary-General's Message to Seventeenth Session of the Conference of States

Parties to the Chemical Weapons Convention", *United Nations*, November 26, 2012, at http://www.un.org/News/Press/docs//2012/sgsm14673.doc.htm, accessed December 12, 2012.

[3] These chemical defoliants and herbicides were similar to the products employed by the US in Vietnam.

[4] "Chemical Warfare in Angola", *Kora*, at http://kora.matrix.msu.edu/files/50/304/32-130-117B-84-LSM%20pamphlet.pdf, accessed December 3, 2012.

[5] Since 1961, the people of Angola, led by the MPLA, were engaged in armed resistance against their Portuguese oppression. "Genocide! In Angola", *Kora*, at http://kora.matrix.msu.edu/files/50/304/32-130-117B-84-LSM%20pamphlet.pdf, accessed December 3, 2012.

[6] The Marxist-Leninist MPLA was supported by the Soviet Union and Cuba, which sent nearly 30,000 troops into Angola in late-1975 while UNITA was backed by South Africa and the United States.

[7] De Wet Potgieter (2012), "Chemical warfare revisited", *The New Age,* March 30, 2012, at http://www.thenewage.co.za/blogdetail.aspx?mid=186&blog_id=%202195, accessed November 29, 2012.

[8] Andrew Torchia (1986), "Chemical Weapons used in Angola, Rebels Claim", *The Nashua Telegraph,* August 22, 1986, at http://news.google.com/newspapers?nid=KFIQUvoPKFAC&dat=19860822&printsec=frontpage&hl=en, accessed December 7, 2012.

[9] "Use of chemical weapons charged", Foreign Broadcast Information Service, Daily Report–Sub-Saharan Africa (FBIS-AFR), *FBIS-AFR-93-001*, January 4, 1993, p. 15, quoted in Thomas Stock and Anna De Geer, "Chemical Weapon Developments", *SIPRI Year Book 1994,* p. 325 at http://archives.sipri.org/contents/expcon/cbwarfare/Publications/pdfs/cbw-yb1994_9.pdf, accessed December 3, 2012.

[10] The main symptom of the syndrome was partial paralysis of the lower limbs. Davey, B. J. (1993), "The "steppage-gait" patients in Angola: chemical warfare?", *ASA Newsletter*, no. 36, June 10, 1993, p. 14; and "Chemical warfare in Angola?", *Jane's Intelligence Review*, vol. 5, no. 6, June 1993, pp. 280-83, quoted in Thomas Stock and Anna De Geer, "Chemical Weapon Developments", *SIPRI Year Book 1994,* p. 326 at http://archives.sipri.org/contents/expcon/cbwarfare/Publications/pdfs/cbw-yb1994_9.pdf, accessed December 3, 2012.

[11] "UN puts pressure on Angola rebels", *BBC News,* January 9, 2000, at http://news.bbc.co.uk/2/hi/africa/595436.stm, accessed December 7, 2012.

[12] This is despite the fact that Angola is party to the 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare. Amelia Broodryk and Noël Stotti (2011), "Enhancing the Role of the OPCW in Building Africa's Capacity to Prevent the Misuse of Toxic Chemicals", *Africa's Policy Imperatives,* Issue 6, May 2011, Institute for Security Studies, at http://www.issafrica.org/uploads/WMDPolicybriefIssue6.pdf, accessed November 29, 2012.

[13] "Africa's impressive growth", *The Economist*, January 6, 2011, at http://www.economist.com/blogs/dailychart/2011/01/daily_chart, accessed December 11, 2012.

[14] Frost & Sullivan (2011), "Uncovering Growth Opportunities in Angolan Chemicals Market", *Research and Markets,* April 2011, at http://www.researchandmarkets.com/reports/1801987/uncovering_growth_opportunities_in_angolan.pdf, accessed December 19, 2012.

[15] These seven countries are Albania, India, Iraq, Libya, Russia, South Korea, and the United States.

[16] "Angolan army concludes seminar on chemical weapons", *Global Times,* July 18, 2010, at http://www.globaltimes.cn/world/africa/2010-07/552964.html, accessed December 19, 2012.

[17] Noel Stott (2012), "Time for Angola to Ratify the Chemical Weapons Convention", Institute For Security Studies, December 11, 2012, *Horn Portal*, at http://horn.so/angola-time-for-angola-to-ratify-the-chemical-weapons-convention, accessed December 17, 2012.

[18] "Chemical Weapons", *Reaching Critical Will,* at http://www.reachingcriticalwill.org/resources/fact-sheets/critical-issues/4582-chemical-weapons, accessed December 3, 2012.

[19] Paul F. Walker (2010), "Abolishing Chemical Weapons: Progress, Challenges, and Opportunities", *Arms Control Association*, November 2010, at http://www.armscontrol.org/print/4513, accessed November 29, 2012.

Conference of the States Parties

The Conference of the States Parties (CSP) is the "principal" organ which comprises of all members of the Organisation for the Prohibition of Chemical Weapons (OPCW). It enjoys the power to supervise and watch over the implementation of the Convention. It also undertakes the function of promoting the aim and purpose of the Convention.[1]

CSP is the main decision making body of the OPCW. As per this position, the CSP appoints the Director General of the OPCW's Technical Secretariat. It also decides the budget and the amount of contribution which is expected from the States Parties. In addition, it approves the annual report and elects the Executive Council of the OPCW and reviews the scientific and technological developments which can affect the overall functioning of the Chemical Weapons Convention (CWC).[2]

Article VIII, paragraph 21, (of the CWC) enlists the activities to be undertaken by the Conference. They consist of the following;

1. "Taking measures necessary to ensure compliance with the Convention;
2. Deciding on the programme and budget and the scale of financial contributions to be paid by States Parties;
3. Approving the annual report of the Organisation;
4. Electing the members of the Council;
5. Appointing the Director-General;
6. Fostering international cooperation for peaceful purposes in the field of chemical activities; and
7. Reviewing scientific and technological developments that could affect the Convention".[3]

The CSP meets once every year. Till 2012 the CSP had met seventeen times and the Seventeenth meeting of the CSP was concluded in November 2012. The Director General announces the Conference 90 days before the meeting.[4] The Executive Council of the CSP consists of 41 rotating members. These members represent five regional grouping, Eastern Europe, Africa, Asia, Latin America and the Caribbean and Others Group.[5]

Endnotes:

1 "Organisation For The Prohibition Of Chemical Weapons" at http://www.opcw.org/about-opcw/conference-of-the-states-parties/

2 "Q&A: OPCW Conference of States Parties: Overview & Issues for the 17th Session" CNS, November 2012 at http://cns.miis.edu/reports/pdfs/OPCW_CSP_Fact_Sheet.pdf

3 "Organisation For The Prohibition Of Chemical Weapons" http://www.opcw.org/about-opcw/conference-of-the-states-parties/about-the-conference-of-the-states-parties/

4 "Rules of Procedure of the Conference of the States Parties" at http://www.opcw.org/about-opcw/conference-of-the-states-parties/rules-of-procedure/#rule1

5 "Organization for the Prohibition of Chemical Weapons (OPCW)" NTI at http://www.nti.org/treaties-and-regimes/organization-for-the-prohibition-of-chemical-weapons/

Chemical and Biological News

DISARMAMENT

The 14th Annual Meeting of National Authorities

26 November 2012

The Fourteenth Annual Meeting of National Authorities was held at OPCW headquarters in The Hague from 22 to 25 November 2012 with 206 participants from 118 States Parties in attendance representing all regional groups.* Two regional organisations, CARICOM and the African Union, participated in the meeting as well.

In his opening remarks to the meeting OPCW Director-General Ahmet Üzümcü noted the high level of attendance, which he said signifies the importance the States Parties attach to the annual event. He further noted that this year's meeting has been extended an extra day to allow more time for participants to interact on a range of relevant topics, including a break-out panel on education, outreach and awareness-raising among stakeholders.

The NA meeting was structured into breakout groups focussing on six different areas. The informative segment of the meeting brought the participants up to date with latest developments in declarations, inspections and international cooperation and assistance, while regional groups met to discuss ways and means to foster sub-regional and regional cooperation for implementation of the Convention.

National Authorities are a cornerstone of the Chemical Weapons Convention, responsible for coordinating the comprehensive implementation of its provisions at the national level across all relevant government bodies.

* Africa - 30, Asia - 27, Eastern Europe – 20, Latin America and the Caribbean – 21, Western Europe and other countries – 20

http://www.opcw.org/news/article/the-14th-annual-meeting-of-national-authorities/

First Laboratory Workshop in the Middle East for the Analysis of Chemicals Related to the CWC

23 November 2012

The Technical Secretariat and the Government of Jordan co-organised a Laboratory Workshop for the Analysis of Chemicals Related to the Chemical Weapons Convention in Aqaba, Jordan from 4 to 15 November 2012. It was hosted by the Ben Hayyan Aqaba International Laboratories and attended by 11 participants from Iraq, Jordan, Oman, and Yemen.

This was the first workshop of its kind to be held in the Middle East and was modelled along the lines of the Analytical Skills Development courses previously organised in South Africa and Tunisia. The event was opened by H.E. Prof. Dr. Kamel O. Mahadin, Chief Commissioner of the Aqaba Special Economic Zone Authority. Also in attendance were their Excellencies Mr Fawaz Al-Rshidat, Governor of Aqaba, and Mr. Turki O. Arasheeda, Head of the Jordanian National Authority, as well as Dr Aiman Soleiman, General Manager of the Ben Hayyan Aqaba International Laboratories.

The Workshop provided basic training in the use Gas Chromatography (GC) and Gas Chromatography-Mass Spectrometry (GCMS) for the analysis of chemicals related to the Convention. The participants received intensive hands-on training in the handling

of different sample matrices for subsequent analysis by GC with element-selective detectors and by GC-MS in electron ionisation mode. Aspects related to good laboratory practice, sample preparation, and the applications of the OPCW Central Analytical Database (OCAD) in compound identification were also covered.

http://www.opcw.org/news/article/first-laboratory-workshop-in-the-middle-east-for-the-analysis-of-chemicals-related-to-the-cwc/

U.S. Assistant Secretary of Defense Visits the OPCW

12 October 2012

The U.S. Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, the Honorable Andrew C. Weber, visited the OPCW headquarters in The Hague today for a meeting with Director-General Ahmet Üzümcü.

The Director-General updated Mr Weber on issues related to the implementation of the Chemical Weapons Convention on its fifteenth anniversary and on preparations for the Third Review Conference, which will be held in April 2013. He commended the United States for its continuing strong commitment to the Convention and support for the work of the OPCW.

As Assistant Secretary of Defense, Mr Weber is the principal advisor to the Secretary of Defense, the Deputy Secretary of Defense, and the Under Secretary of Defense for Acquisition, Technology and Logistics for matters concerning nuclear, chemical, and biological defense programs. Mr. Weber is also the Staff Director of the Nuclear Weapons Council, which manages the nuclear weapons stockpile, and oversees the Defense Threat Reduction Agency and the Nunn-Lugar Cooperative Threat Reduction Program.

http://www.opcw.org/news/article/us-assistant-secretary-of-defense-visits-the-opcw/

High-Level Meeting in New York to Mark 15th Year of the OPCW

27 September 2012

The Organisation for the Prohibition of Chemical Weapons will hold a high-level meeting at the United Nations Headquarters in New York on 1 October 2012. The meeting coincides with the opening of the sixty-seventh session of the General Assembly.

The theme of the meeting is: "Fifteen Years of the Chemical Weapons Convention: Celebrating Success, Committing to the Future." Its purpose is to generate support for the long-term objectives of the Convention and to provide impetus to the Third Review Conference scheduled to be convened in April 2013. UN Secretary-General Mr Ban Ki-moon will open the event. Ministers and Senior Officials from States Parties will address the meeting.

The Chemical Weapons Convention represents an unqualified success in the field of disarmament and non-proliferation and is a testament to effective multilateralism in the service of international peace and security.

The OPCW has become the fastest-growing disarmament and arms control treaty organisation in history with 188 States Parties and covers 98% of the world's population. This represents an overwhelming global consensus to eliminate these weapons. In this time the OPCW has verified with on-site inspections the destruction of over three-quarters of all

declared chemical weapons – an unprecedented achievement in the annals of disarmament – together with the destruction or conversion for peaceful purposes of the facilities associated with the production of chemical weapons.

With the complete elimination of declared chemical weapons now in sight, the long-term goals of universality of the Convention and the prevention of the re-emergence of these weapons will assume centrality in the work of the OPCW. It is therefore crucial to ensure that the prohibitions of the Convention be upheld for all times to come and that the OPCW continue to provide an assurance of security to its States Parties against chemical threats.

The successful implementation of the global chemical weapons ban since its entry into force is proof that disarmament succeeds. Attention and commitment at the highest levels in governments will ensure its enduring validity as a barrier against an entire category of weapons of mass destruction.

http://www.opcw.org/news/article/high-level-meeting-in-new-york-to-mark-15th-year-of-the-opcw/

NATIONAL AND INTERNATIONAL DEVELOPMENTS

OPCW Statement on Alleged Chemical Weapons in Syria

24 July 2012

In regard to reports in the media concerning the possible use of chemical weapons in the Syrian conflict, the Director-General of the OPCW, Ambassador Ahmet Üzümcü, has issued the following statement:

"The OPCW echoes the view of UN Secretary General Ban Ki-moon that it would be 'reprehensible' if anybody was contemplating the use of weapons of mass destruction, like chemical weapons, in Syria. The prohibition on the use of chemical weapons is established in international law and, if stockpiles of chemical weapons exist and there is the possibility they may be deployed, this is a matter of grave concern to the international community as a whole. The Chemical Weapons Convention prohibits the development, production, stockpiling or use of these weapons and today has 188 States Parties. As we stated in our press release of 18 July, the OPCW is following media reports and other published information on Syria and will continue to monitor developments there closely."

http://www.opcw.org/news/article/opcw-statement-on-alleged-chemical-weapons-in-syria/

Syria and the OPCW

18 July 2012

The OPCW is following the recent media reports and other published information on developments in Syria. Syria reportedly possesses significant stockpiles of chemical weapons, including highly lethal nerve agents. However, without conducting physical inspections and investigations, the OPCW cannot speculate or comment on the veracity of those reports. Nevertheless, the OPCW is unreservedly concerned about the existence of chemical weapons of any sort and anywhere in the world thus it will continue to follow developments in Syria.

Syria is not a Party to the Chemical Weapons Convention (CWC) and hence is not legally committed to the Convention's prohibitions against the development, production,

stockpiling or use of chemical weapons. Therefore, the OPCW currently has no legal mandate to conduct inspections in the country to verify the possible existence of chemical weapons or related activities.

Conversely, Syria is a party to the 1925 Geneva Protocol, which bans the use of chemical and bacteriological methods of warfare. It ratified the Protocol in 1968 without reservations, except for the proviso that the protocol did not represent recognition of Israel. Thus, Syria has formally renounced both first and retaliatory use of chemical or biological weapons against any State.

The OPCW has made representations to Syria over the years to encourage her to join the Treaty, which have never produced an official response. Even so the OPCW remains available at all times to engage with the Syrian government and provide technical assistance for Syria to join the Convention.

Although not a United Nations (UN) organisation, the OPCW has a working relationship with the UN. For instance, if requested to do so by the UN Secretary-General, the OPCW has a mandate in accordance with paragraph 27 of Part XI of the Verification Annex of the Convention for closely cooperating with the UN, by placing its resources at the disposal of the Secretary General to conduct an investigation of alleged use of chemical weapons in a State not Party to the CWC.

http://www.opcw.org/news/article/syria-and-the-opcw/

Obama Warns Syria Against Using Chemical, Biological Weapons

By Army Sgt. 1st Class Tyrone C. Marshall Jr. American Forces Press Service Washington, 3 December 2012

President Barack Obama today warned Syria's Bashar Assad regime that the use of chemical and biological weapons would be "unacceptable."

Speaking at the Nunn-Lugar Cooperative Threat Reduction Symposium at the National Defense University here, Obama addressed concerns of the use of nuclear, chemical and biological weapons in Syria.

"Today, I want to make it absolutely clear to Assad and those under his command [that] the world is watching," he said. "The use of chemical weapons is, and would be, totally unacceptable. And if you make the tragic mistake of using these weapons, there where be consequences, and you will be held accountable."

The president said it has been critical to continue investing in threat reduction programs over the past four years of his administration.

"We simply cannot allow the 21st century to be darkened by the worst weapons of the 20th century," Obama said. "And even as we make some very tough fiscal choices, we're going to keep investing in these programs, because our national security depends on it."

The president noted even after the destruction of thousands of missiles, elimination of bombers and submarines and deactivation of warheads, much work remains to be done.

"There's still much too much material — nuclear, chemical, biological — being stored without enough protection," he said. "There are still terrorists and criminal gangs doing everything they can to get their hands on it."

If these criminals get these weapons, they will use them, potentially killing hundreds of

thousands of innocent people and perhaps triggering a global crisis, the president said.

"[This is] why I continue to believe that nuclear terrorism remains one of the greatest threats to global security," he added. "[And] why working to prevent nuclear terrorism is going to remain one of my top national security priorities as long as I have the privilege of being president of the United States."

The president emphasized that the United States must sustain efforts across the government to strengthen threat reduction programs such as the Nunn-Lugar Cooperative Threat Reduction Program, which he called "one of our most important national security programs."

"[This is] why we haven't just sustained programs like Nunn-Lugar over the past four years," Obama said. "We've worked with all of you to strengthen it, expanding it to some 80 nations, far beyond the old Soviet Union - moving ahead with the destruction of chemical weapons - partnering with others, countries from Africa to Asia and global health organizations to prevent the spread of deadly diseases and bioterrorism."

The work ahead will not be easy, Obama said. "It took decades and extraordinary sums of money to build those arsenals," he explained. "It's going to take decades and continued investments to dismantle them."

Obama also said while this painstaking work rarely makes headlines, it is "absolutely vital to our national security and to our global interests."

"Missile by missile, warhead by warhead, shell by shell, we're putting a bygone era behind us," he said. "Inspired by Sam Nunn and Dick Lugar, we're moving closer to the future we seek — a future where these weapons never threaten our children again, [and] a future where we know the security and peace of a world without nuclear weapons."

The president also told the audience that the United States will continue to support the "legitimate aspirations of the Syrian people" by engaging with the opposition and providing them with humanitarian aid and by working for a transition to a Syria that's free of the Assad regime.

http://www.defense.gov/News/newsarticle.aspx?ID=118698

ProMED-mail published its weekly *Dengue Update*.

Reporting on the ongoing epidemic of dengue fever in India, the high number of cases reported were in each instance followed by the word: "increasing."

Also increasing is the sense of alarm that hundreds of millions of people, not just in India but around the world, are at risk. Fifty years ago dengue was reported in just a handful of countries, now it is endemic in over 100. WHO has estimated that dengue fever threatens about 2.5 billion people, more than 40 percent of the world's population. "The global dengue problem is far worse than most people know, and it keeps getting worse," said Dr. Raman Velayudhan, the World Health Organization's lead dengue coordinator, quoted in a recent New York Times article.

In a world of rapid travel, viruses, vectors, and their victims can introduce new diseases into previously uninfected areas. The Asian tiger mosquito *Aedes albopictus*, globally an important vector of human pathogens such as the chikungunya and dengue viruses as well as filarial nematodes, has spread from South-East Asia to the Americas, parts of Africa, northern Australia, and 19 European countries during the last decades. The

mosquito seems to have been transported by trucks and cars from southern Europe. Its eggs have reportedly been transported via the used tire trade and the importation of lucky bamboo from southern China to the nurturing warmth of greenhouses in the Netherlands.

In areas where this mosquito has become relatively abundant, all that is needed to initiate a dengue outbreak is the appearance of an infected individual similar to the introduction of chikungunya virus into Italy from India, triggering a small outbreak. Arrival of travelers from dengue-endemic areas into dengue virus-free areas is not an uncommon event. Local dengue transmission has occurred in southern France, Croatia and Key West, Florida; health officials in Miami announced a case of locally acquired dengue infection last month. More outbreaks can be expected in the future wherever competent dengue virus vectors are present, underscoring the need for ongoing surveillance to detect local transmission early on.

http://www.promedmail.org/

NEW DEVELOPMENTS IN SCIENCE AND TECHNOLOGY

New military apparel repels chemical and biological agents

October 17, 2012 by Anne M Stark Enlarge

The highly breathable membranes have pores made of a few nanometer-wide vertically aligned carbon nanotubes that are surface modified with a chemical warfare agent-responsive functional layer. (Phys.org)—Lawrence Livermore National Laboratory scientists and collaborators are developing a new military uniform material that repels chemical and biological agents using a novel carbon nanotube fabric.

The material will be designed to undergo a rapid transition from a breathable state to a protective state. The highly breathable membranes would have pores made of a few-nanometer-wide vertically aligned carbon nanotubes that are surface modified with a chemical warfare agent-responsive functional layer. Response to the threat would be triggered by direct chemical warfare agent attack to the membrane surface, at which time the fabric would switch to a protective state by closing the CNT pore entrance or by shedding the contaminated surface layer. “The uniform will be like a smart second skin that responds to the environment,” said Francesco Fornasiero, LLNL’s principal investigator for the Defense Threat Reduction Agency (DTRA)-funded project. “Without the need of an external control system, the fabric will be able to switch reversibly from a highly breathable state to a protective one in response to the presence of the environmental threat. In the protective state, the uniform will block the chemical threat while maintaining a good breathability level.” High breathability is a critical requirement for protective clothing to prevent heat-stress and exhaustion when military personnel are engaged in missions in contaminated environments.

Current protective military uniforms are based on heavyweight full-barrier protection or permeable adsorptive protective overgarments that cannot meet the critical demand of simultaneous high comfort and protection, and provide a passive rather than active response to an environmental threat. To provide high breathability, the new composite material will take advantage of the unique transport properties of carbon nanotube pores, which have two orders of magnitude faster gas transport rates when compared with any other pore of similar size.

http://phys.org/news/2012-10-military-apparel-repels-chemical-biological.html#jCp

Book Review

"Biological Warfare": Col (Retd) B.K. Sinha, Surendra Publications, Delhi, 2010.

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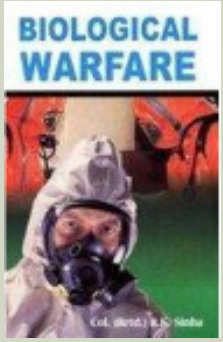
Summary

The book attempts to stress emphasis on establishing effective public health infrastructure. It also argues with respect to having more public debates and awareness on these issues to influence state policies. However the book also beautifully highlights the major hurdles in the implementation of Biological Weapons Convention (BWC) and it also expressed the concern that imminent advancements in biotechnology will further complicate biological warfare in the future.



Biological Warfare, written by Col (Retd) B.K. Sinha, is an important publication linking biological warfare and public health. It argues that the phenomenon of bioterrorism is significant as the bio-weapons could be covert, economical and also silent killers. This book also focuses on chemical warfare in a substantial manner. In general, it is based on thorough research and is also very timely.

In the introduction section, the author discusses the nature of biological agents; their signs and symptoms, diagnosis, treatments and preventions. Relating to the history of biological and chemical weapons, the author emphasizes that biological weapons are not new; from the battle of Eurymedon in 190 BC, Solon of Athens poisoning Pleistrus River around 590 B.C to sophisticated use in WWI by Germany, examples of biological warfare can be found everywhere. Discussing the history of chemical warfare, based on historical accounts, the author infers that Chinese were the original masters of chemical warfare, and that the documents suggests that these weapons were used as early as 7th century BC. The book comprehensively discusses various multilateral mechanisms including the Geneva Protocol, Chemical Weapon Convention (CWC), and the Biological and Toxin Weapon Convention (BTWC) and adequately highlights the importance of these.

In subsequent chapters the author discusses in due detail a wide range of topics from biological warfare, bioterrorism, bio-defence to toxic weapons. Discussing characteristics of biological and chemical weapon individually, the author tries to articulate their close association in terms of acquisition and delivery methods. The contentious issue that medical and biological technology can be misused as tools of bioterrorism has been emphasised well by the author. He suggests

that the BTWC should emphasize on verification protocols that deter and discourage violation of the convention. Also, timely detection of diseases by the authorities can act as a safeguard against bioterrorism. In addition, this book discusses biological warfare and prevention framework and conventions in the context of developed countries, especially the United States. However, this discussion could have been well juxtaposed by formulating a framework on what is done by developing countries in this respect since they lack financial as well as technical resources and infrastructure.

Referring to the threat of deliberate disease in 21st century, the author elucidates on how the processes of globalisation accentuate the spread of different virus, bacteria and other biological agents to create epidemics around the globe. The book subsequently focuses on production and military significance and closely studies the cases involving biological agent. From the point of view of understanding their popularity, the author recounts the advantage of bio-weapons vis-à-vis the more sophisticated nuclear weapons or conventional warheads. He also says that using toxic material significantly elevates the effectiveness by creating more chaos. He also looks at the delivery system and defence against bio-weapons, giving a glimpse into the challenges of biological agents that are affected by atmospheric conditions, the method in which bio-agents are deployed and ways in which it is delivered. Emphasising the ease of use of these weapons, the author says that terrorists can use a vehicle, small aircraft or simply upwind location to disperse biological agent over designated area. While the world has evolved towards much sophisticated technology such as ballistic and cruise missiles, cluster munitions and the likes, challenges posed by many upcoming weapons systems such as dual-use cyber-insects and bio-robots which could be used for the potential weaponisation of biological agents are also significant. Following up discussion on different countries and their proliferation record, the author has effectively portrayed the hurdles in the implementation of BWC and expressed the concern that imminent advancements in biotechnology will further complicate biological warfare in the future.

The chapter focusing on the protocol to BWC focuses on different protocol regimes, export control regimes and their mechanisms. Reflecting on the possible hurdles, the author states, "If negotiations are not completed within the coming year, there is a real danger that protocol's provisions will become so corrupted that resultant regime will be inefficient and will fail to meet the objective of strengthening convention" (p. 114). Critically examining the issue area, he reflects concerns which can complicate any transparent, credible and verifiable systems of prevention and countermeasures for these weapons.

The author emphasises on establishing effective public health infrastructure and prescribes more public debates and awareness on these issues to influence state policies. He has framed critical issues for certain areas where effective response is vital; this covers laboratory diagnostic capacity, research capacity, security, knowledge assets and education and training, where he accentuate on education as the vital link. He rues lack of implementation of this framework so far. He also talks about building capacity to prevent and respond to bioterrorism with highly focused approach involving trained personnel, well-equipped laboratories and better communication. Even though frameworks are well conceptualised and synthesised, these seem to be more inclined toward developed countries where such investments and infrastructures are feasible. The author concludes the book by

explicating the role of antiviral in responding to biological threat indicating research directions in science in near future.

Overall, the book stands worth of being a useful addition to the literature on the subject. However, incorporation of areas such as critical economic issues including the costs of vaccine development, costs associated with potential product liability, social and additional political aspects such as achieving solutions that require cooperation between nations, industry, academia, and others, could have made this book even more comprehensive from the policy point of view.

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CBW Magazine

Journal on Chemical and Biological Weapons

Winter / July-December 2012

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