CBW Magazine

Journal on Chemical and Biological Weapons

Volume 1 Number 1 Sept - Dec 2007

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INSTITUTE FOR DEFENCE STUDIES AND ANALYSES

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Introducing CBW *Magazine*

First of all, it gives me great pleasure to write the editorial for the first issue of CBW *Magazine*. Not only because this magazine would be the first of its kind in India, but also because it is something that has been in the pipeline for a long time. Today, it is finally out on the stands, though in a modest form; but we have only just begun. We are hoping to bring it out on a quarterly basis, so that, while we have considerable time to focus on for an even more dynamic second issue, we also wish to give our readers, as well as, contributors, some in-between-issues respite.

I must share with you some of the 'behind the scenes' information about CBW. Initially, during the conceptualisation stage, we pondered over and dabbled with various themes and concepts that we would have liked the magazine to envisage. The foremost issue was whether it should be stylised in a magazine or a journal format? Owing to the dynamism of either formats, we settled for a potpourri of sorts. That is how the title and the byline came to incorporate both terms – CBW *Magazine*, 'a journal on chemical and biological weapons'. We hope our readers would appreciate this aspect of the magazine and offer us feedbacks for further improvement.

The magazine would, first of all, consist of a Cover Story in a true magazine style. Further, there is a Country Profile and Book Review. The Invited Articles section conforms to the journal format, though referencing would be in-text and consist of only select sources. There is also a section on current news in biological and chemical field, which would be arranged thematically and cover issues on arms control, disarmament, role of state and non-state actors, etc., pertaining to chemical and biological weapons issue. We would also attempt to survey the ongoing news in brief and present them in a legible format.

This magazine, to say the least, is honoured to be associated with India's leading think tank on strategic affairs, the Institute for Defence Studies and Analyses. Coming from IDSA, the magazine that has long been overdue ought to throw light upon issues that need to be addressed urgently, given their critical nature and influence upon state security. CBW aspires to do exactly that.

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

Dissuasion by Punishment or Denial to Counter Bioterrorism

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Perhaps, there are defences, or a web of defences, that will prove too difficult for any plausible non-state actor to produce and use biological weapons. Indian security establishment would, in principle, get bio-defence products as a spin off from biotech research, thereby, affirming the primacy of 'dissuasion by denial'.

In June 2002, the first ever big delegation led by Dr AC Muthiah, the Senior Vice President of FICCI, left for the United States. The two interesting features of this meticulously planned visit by Dr Amit Mitra, the Secretary General of FICCI were first, the unusual difficulty experienced in political clearance owing to the ongoing India-Pakistan stand off. Second, in the US it was not the expected Information Technology (IT) sector that received attention, but the Biotechnological (BT) Companies like Ranbaxy, Biocon India, and Cadila among others, who stole the limelight. The reason being the leap Indian companies have taken in research, manufacturing and marketing of pharmaceutical products. They have been able to produce high quality biotechnology products that are used for treating critical care patients of cancer and AIDS. The progress has been amazing considering that the average BT business changes seven times faster than the ability of its basic Information Technology (IT) operations to adapt to these changes. And who else but India with its IT strength is leading the BT revolution.

Both IT and BT technologies converge in the area of diagnostics where the impact of genome and biochips has been immense. Researchers are now able to identify, within minutes, mutated genes that could cause diseases like cancer and multiple sclerosis. Use of biochips could enable relatively accurate and precise diagnosis, thereby, allowing for timely treatment of many diseases. On-the-spot identification of specific bacteria, viruses, and other micro-organisms would become possible. Automation of key techniques has lowered the threshold for experiments. A very good example of this effort being put into practice is that of the containment of Severe Acute Respiratory Syndrome (SARS). There is also a dangerous side of advancement in biological sciences, i.e. the engineering of pathogens which is now possible and "these could have worst characteristics than SARS, for example, much longer incubation periods or greater communicability".

However, would all this progress in BT lead to stability? Or would it lead to a race for acquiring of Biological Weapons (BW)? What kind of dissuasion method be suitable against bioterrorism?

Examining the issue of stability does not evoke much confidence, if we consider only two simple issues. First, the only deterrent if any, for use of Biological Weapons was the problem of aerosolisation of the micro-organisms, which was resolved to a great extent when simple inhalers became popular with asthma patients and similarly producing large quantities at cheaper rates, could be resolved sooner than we think because of the advancement in the genetic research. Second, there is a paradox as the latest toxins are mostly aimed at attacking human immune system and so is the research for organ transplant which is aimed at suppressing the functioning of the human immune system. Similarly, any progress made in biotechnology to fight AIDS virus, also targets the human immune system, which could be used for warlike purposes. It is quite clear, therefore, that "the possibility of misusing advanced medical research increases in direct proportion to the level of advance but it is unclear whether the worst development could be used in the near future for causing immense casualties".

Observing the behaviour of nation-states, like the US, the Director of Sunshine Project exclaimed, "Our bio-warfare research is defending ourselves from ourselves". His remark came in the wake of the article titled "America, the Beautiful Germ Warfare Rash". According to the article, since 2001, the US has spent at least 44 billion dollars on "the costliest, most grandiose germ warfare research programme ever attempted... involves development work with the deadliest and most loathsome pathogens capable of triggering plagues and epidemics". The article contrasts National Institute of Health (NIH) expenditure of 120 million dollars in 2006 to combat influenza, which kills about 36,000 Americans annually, to the biodefence receipts of 1.76 billion dollars to anthrax, that claimed 5 lives in attacks on Congress and the media in 2001. It does not require much imagination to figure out what an emerging super power like China, its friendly states like Pakistan and the erstwhile super power Russia, would be doing to secure their national security interest.

It may seem out of place to mention that a newspaper article cited in Chyba and Greninger, covering the conduct of a workshop at Faisalabad on "Advanced Techniques in Biotechnology," reported that the "Pakistani Atomic Energy Commission is committed to training scientists from the Muslim countries in biotechnologies". In a *New York Times* report, Wayne Arnold termed biotechnology to be the "fourth pillar" of its economy. In the same paper, David Barboza earlier reported that "China has some 2000 people working in 200 biotechnology laboratories". Now, if that does not make up for a race of sorts, what else could it be? Lastly, if we are to accept the afore mentioned predicament on bio-warfare and biotechnology and the importance given to them by state institutions, as given, then we would have no option but to accept the inevitability of them being misused by non-state actors. Hence, we arrive at the question; how to fight bioterrorism, "by punishment or by denial"?

Traditionally, deterrence has played an important role in assuaging conflicts. But, in the early twentieth century, with the introduction of the 'doctrine of strategic bombing' in military warfare, deterrence has tended to assume a new dimension – that of 'punishment', independent of, though not necessarily exclusive to, traditional deterrence through 'denial'. The introduction of nuclear weapons has further compounded the dilemma; to put it in Clausewitzian terms, "violence ha(s) indeed been pushed to its utmost bounds", through the technology for mass destruction.

It must, however, be kept in mind that any kind of dissuasion through 'punishment' has obvious pitfalls. The idea is as absurd as the

"overblown promise to end the terrorist scourge". Conducting a nuclear strike against bioterrorism, or any other terrorist act, has been described by Robert Scheer in *Los Angeles Times* dated 12 March 2002 as "an infantile tantrum" (in the article, "When in doubt, nuke 'em"). The terrorists are aware that strategic deterrence through punishment will work only through offensive action. What the terrorist cannot resolve is the dilemma of deterrence, as deterrence can operate both through offensive and defensive strategies.

Therefore, only option seems to be "succeed(ing) in discovering and implementing certain *de facto* last-move defences, at least on an 'organism by organism' basis. Perhaps, there are defences, or a web of defences, that will prove too difficult for any plausible non-state actor to produce and use biological weapons. It is not certain whether such defences exist at this time, but their exploration is a long term research goal. Bill and Melinda Gates Foundation, in its 200 million dollars initiative to improve global health, has called for research and production of drugs that would counter the emerging potency of microbes' resistance to drugs - a 'last move' defence against the evolutionary potentials of natural microbes. Should a collection of such defencive moves prove successful, bioterrorism might ultimately surrender to a kind of 'globalised dissuasion by denial'.

We in India owe it to the world to be in the forefront against bioterrorism as we are an emerging big power in biotechnology. Indian lead and capability would inspire other nations to unite in this endeavour. In order to be able to do this, we have to keep up the lead in biotechnology. Let Ranbaxy, Biocon India, Cadila and many others, keep up the pressure on the research and development. The Indian biotechnology industry should be so advanced that it should have the capability to find a preventive cure even before the incubation period of the intended rogue organism is over. Indian security establishment would, in principle, get bio-defence products as a spin off, thereby, affirming the primacy of 'dissuasion by denial'.

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CWC's First Decade

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Non-lethal chemical weapons are a problem and CWC should address it. The West Asian chemical weapons issue has no immediate solution. Chemical industries in many states, particularly in developing nations, have shown exponential growth in their activities, which demands immediate attention.

The spectre of Weapons of Mass Destruction (WMD) warfare has led to the formation of global disarmament architecture. The Chemical Weapons Convention (CWC) forms an important part of this architecture. It is seen as an important part of the international law supporting disarmament and non-proliferation concerning weapons of mass destruction. It is the only international agreement that necessitates complete and verifiable eradication of an entire category of WMD. Also, though the treaty became an international law much later than the Non-Proliferation Treaty (NPT) and the Biological Weapons Convention (BWC), it is the only one concerning WMD to create its own international institution, the Organisation for the Prohibition of Chemical Weapons (OPCW), and to include comprehensive verification provisions.

This convention came into force on 29 April 1997. Within a span of less than a decade, the CWC has won support from nearly all United Nations member states: 182 states-parties (covering 98 per cent of the world's population) have agreed to be bound by the convention, while additional six states have signed but not ratified it, namely, Bahamas, Congo, Dominican Republic, Guinea-Bissau, Israel, and Myanmar. Seven countries, namely, Angola, North Korea, Egypt, Iraq, Lebanon, Somalia and Syria are not party to this convention.

On 29 April 2007, on the occasion of the CWC's tenth anniversary, Ban Ki-Moon, the United Nations Secretary General, observed that the CWC has made significant strides in eliminating an entire category of WMD. He also praised the work done by OPCW under which the convention is carrying out its activities.

Chemical Weapon

The CWC defines 'chemical weapon' broadly to include the following:

(a) toxic chemicals and their precursors, except where intended for purposes not prohibited by the CWC, as long as the types and quantities are consistent with such purposes;

(b) munitions and devices specifically designed to cause death or harm through the toxic properties of toxic chemicals released by using such munitions or devices; and

(c) any equipment specifically designed for use directly in connection with the employment of such munitions and devices (Article 2.1).

CWC Bans

(a) Developing, producing, acquiring, stockpiling, or retaining chemical weapons.

(b) The direct or indirect transfer of chemical weapons.

(c) Chemical weapons use or military preparation for use.

(d) Assisting, encouraging or inducing other states to engage in CWC-prohibited activity.

(e) The use of riot control agents "as a method of warfare."

OPCW

Formation of the OPCW is one of the biggest successes of the CWC. It was established to implement provisions of the CWC and is headquartered in Hague with about 500 employees. It started its operations in 1997 after the ratification of the CWC. The OPCW is an important part of the UN system that provides research and information on the use and potential use of chemical weapons, including by terrorist organisations. It also tracks the movement of chemicals that could be used to put together such weapons globally. Signatories to the treaty could ask OPCW to carry out expert "challenge inspections" to ensure other states-parties are adhering to their commitment to not develop, stockpile or use such weapons.

The OPCW too, during a decade of its existence, has played a major role in pursuing new states to join the CWC. While it is responsible for ensuring that the CWC states-parties implement their obligations into national law and policy as required by the treaty (Article 7.1), it has also been at the forefront in assisting the new member-states to develop domestic implementation legislation and regulations, taking into account their specific political, legal, and economic conditions.

The OPCW receives states-parties' declarations about their respective chemical weapons related activities or materials and industrial activities. Such declarations are then verified through the OPCW inspections. OPCW monitors states-parties' facilities and activities as they are pertinent to the Convention's aims. The organisation also relies on the cooperation of other international organisations to assist it with dispatch, delivery and managing on-site activities and training.

Main Bodies of OPCW

(a) The Conference of States Parties, its highest decision-making body;

(b) The Executive Council, which supervises the activities of the Technical Secretariat and is responsible to the Conference; and

(c) The Technical Secretariat, which does the work of the OPCW.

OPCW Inspections

The Convention allows "short-notice challenge" inspections by the OPCW where, if a state-party complains of a breach of the Convention by another. It also provides for routine inspections and investigations of alleged use of chemical weapons. Civilian chemical industries are open to inspection to ensure that:

(a) "dual-use" industrial chemicals are not used in a weapons programme; and

(b) chemical weapons programmes are not hidden in what appear to be legitimate civilian facilities. The OPCW has, since the entry into force of the Convention, conducted over 2,500 inspections of chemicals sites within 76 states-parties. However, till date, no state-party has ever invoked the provision of "challenge inspection". Since its entry into force in 1997, six countries that include United States, Russia, India, Albania, Libya and a "state party", possibly South Korea have confirmed the availability of chemical weapons: Russia topping the list with 40,000 tonnes and the United States with 27,000 tonnes; the total declaration amounting to 70,000 tonnes.

Destruction

Little more than 25 per cent of the declared chemical weapons stockpiles have been destroyed so far. Initially, the deadline specified by the treaty for complete destruction of chemical weapons stockpiles was 29 April 2007. However, the pace at which the six countries destroyed their stockpiles led to the extension of this deadline by five years, i.e. till April 2012. But, even this date appears to be totally unrealistic, particularly from the point of view of the US and Russia who possess very large stockpiles of weapons; and their past progress indicates that they are nowhere near to their task. It is estimated that the US would be able to manage a total destruction of its stockpiles only by 2023.

Other Mandates of CWC

Destruction of the declared chemical weapons is a very important task for the CWC/OPCW though its mandate extends much beyond. The CWC/OPCW looks at the verification and implementation of the convention as a whole. It also offers cooperation and assistance on various issues under the umbrella of this convention. Regular inspections for chemical industries are carried out to confirm that the norms set by CWC are being pursued. The most positive aspect of this convention is that generally it has managed to strike an acceptable balance between political concerns and the industry's interests.

Review Conference

The First Review Conference was held from April 28 to May 9, 2001, four years after the convention came into force; 101 states, out of the then 151 signatory states, participated. In addition, two signatory states, Haiti and Israel, two non-signatory states, Libya and Angola; five international organisations ESA, ICRC, PCA, CTBTO and UNIDIR; 22 NGOs; and six industry associations were approved by the Conference as participants. The Conference started with heated arguments between the Iranian and US representatives, with regard to the alleged possession of chemical weapons by Iran. Later, the discussion was conducted in a more professional manner and the Conference was able to agree on two documents: the Political Declaration and the Review Document. These documents essentially discuss the following issues:

(a) Universality of the Convention;

(b) National implementation measures;

(c) International Cooperation and Assistance;

(d) Verification regime for the chemical industry;

(e) Optimisation of verification measures;

(f) Scientific and technological development; and

(g) Functioning of the OPCW.

On the whole, the Conference witnessed insufficient engagement of key stakeholders from the industrial, scientific and academic fields. The main reason for this could be that Hague based OPCW representatives, including official representatives from various states, largely dominated the Conference proceedings. In sum, though the First CWC Review Conference was dominated, to a considerable degree, by the pursuit of national self-interest, this did not undermine the effectiveness of the Convention – a fear expressed by New Zealand during the general debate.

Status of Chemical Weapons

Following is a gist of the important issues discussed in recent writings, presentations and discussions:

(a) Progress made in the area of verifications is slow and gaps exist with respect to chemical industry and verification system.

(b) The concept of 'challenge inspections' has failed owing to the widespread fear that the challenged country might retaliate with a *quid pro quo*. For this formula to succeed, it is necessary to understand that it is not an antagonistic, but a cooperative process.

(c) The representatives of the industries are of the opinion that better implementation of CWC is more important before stepping up controls on industry. Therefore, they would resist extending sampling and analysis to Other Chemical Production Facilities (OCPF). The OPCW should use open source information more effectively in order to focus on what to inspect and the number of OPCF inspections should be increased.

(d) It could be argued that destruction of chemical weapons till the 'last-drop' is not a practical idea. Instead, weapons could be made incapable from the point of view of reuse only.

(e) Concerns are raised about state-parties that may possess chemical weapons but have not declared the same. The states that fall in this category are North Korea, Syria, Egypt, Iran, China, Sudan and Israel.

(f) It could be argued that the arms control and disarmament community has overrated this treaty. Most of the developing nations have joined this treaty because of the economic benefits promised to them. The basic flaw with CWC is that the ratification has essentially remained a political act whereby the states have failed to take subsequent measures of putting national legislation in place. The rise of networks like the AQ Khan Network could be attributed to this tendency.

(g) The OPCW needs to look at modern developments in science and technology and the impact of technologies like micro-reactors, nanotechnology and biotechnology on chemical industry, and its likely consequences for CWC.

(h) Non-lethal chemical weapons are a problem and CWC should address it.

(i) West Asian chemical weapons issue has no immediate solution. Israel should set

up an example for the region by signing CWC. As such, chemical weapons have no future because they are militarily and technologically non-viable.

(j) CWC is concentrating more on state related issues. However, the history of chemical weapons shows that such weapons have always been used by a state against a civilian population and not by the military against military. In the 21st century, the threat of chemical terrorism needs adequate attention.

India and CWC

Today, the world's attention is also focused on India. This is essentially due to two reasons. First, after denying the possession of chemical weapons for many years, in June 1997, India became one of the six states that declared possession of chemical weapons stockpile and production facilities; but is yet to finish the destruction of its stockpiles. Second, India has one of the largest and advanced chemical industries in the region. India is an original signatory to the CWC (signed on 14 January 1993). India was also amongst the first 65 countries to ratify this Treaty in September 1996. Incidentally, an Indian was the first Chairperson of the Executive Council of the OPCW. India has taken active part in all activities of the CWC right from the beginning while adhering to the principle that the provisions of the Convention must be implemented in a non-discriminatory manner.

Ever since India declared possession of chemical weapons, initial inspections have taken place at pertinent military and industrial sites. India has also begun to destroy its chemical arsenal under the supervision of inspections. Immediately after India's admission, a four-person OPCW inspection team visited a laboratory in Gwalior to verify India's compliance with the CWC in July 1997. The OPCW reported that India is in compliance. Again, during early August 1997, a ten-person team of inspectors from OPCW conducted an inspection of another Defence Research and Development Organisation (DRDO) facility involved in chemical weapons production located at Ozar (near Nashik, Maharashtra).

Currently, India is in the process of destroying these weapons in accordance with its obligations to the CWC. In 1999, India destroyed more than 1 per cent of its declared stockpiles to meet the requirement of the convention for the first phase of Category 1 chemical weapons destruction. Phase II of the convention required the destruction of 20 per cent of its stockpile by 29 April, 2002. By November 2003, India had destroyed 45 per cent of its declared Category 1 stockpile six months ahead of schedule. By the end of 2004, India had destroyed 1.7 metric tons of toxic waste that it had declared as Category 1 chemical weapons, all of its declared Category 2 and all 1,558 of its Category 3 chemical weapons. In fact, by the end of October 2004, OPCW had carried out 16 inspections with respect to India.

By 2005, from among the six possessor states, India was the only one to meet its deadline for verified CW destruction and for inspections of its facilities by the OPCW. It has also incorporated all three CWC schedules of chemicals into its national export control list.

As reported, India has a declared stockpile of 1,044 metric tons of sulphur mustard. Less than 2 per cent of the agent was filled into artillery shells and the remainder stored in bulk containers. As of March 2006, India had destroyed 53 per cent of its stockpile, including all of the filled munitions.

India has succeeded in destroying almost more than 75 per cent from the entire stock. At the 11th session to the conference of the

state parties to the CWC concluded in Hague on 8 December 2006, extended India's term for total destruction to 28 April 2009. Even though five years extension is officially permitted, India is confident that it can complete the destruction process by 2009.

Till date all destruction by India has been carried out under the watchful eyes of OPCW inspectors and will also be done in future. The cause for envisaged delay is essentially because the process of destruction is very slow and we need to take adequate precautions from point of view of safety of personal, environmental pollution etc.

By the end of 2006, India had destroyed more than 75 per cent of its chemical weapons/material stockpile. India had asked for and was granted two years extension for destroying it chemical weapons (till April 2009), and is expected to achieve 100 per cent destruction within this timeframe.

Apart from its commitment to the OPCW, domestically India has taken all efforts to strengthen its commitment to the CWC. India has an act called 'CWC 2000 Act' in place. As per the '2005 WMD Bill', proliferation is a crime and private companies are liable for prosecution under this bill. India has a well established export control mechanism in place with updated guidelines related to export of Special Chemicals, Organisms, Materials, Equipment and Technologies (SCOMET) items.

Primacy of CWC

Currently, issues related to chemical weapons are being discussed with greater concern owing to various reasons.

First, this most successful disarmament treaty has completed its tenth year. Though the completion of ten years of the CWC has provided opportunity to the policy makers, the chemical industry and the academia to reexamine various issues related to the CWC beyond celebrations, the real challenge is to fix the agenda for the coming future.

Second, the second Review Conference is due to be held next year, in 2008. As it would be the first review conference post 11 September 2001, there is a need to have an exhaustive appraisal of the issues pertaining to chemical terrorism too. The Open-Ended Working Group for the Second Review Conference (WGRC) is responsible for directing the preparations for the upcoming conference in 2008. Importance is placed on the need to integrate a wide range of members, like the chemical industry, and appoint facilitators to help resolve contentious issues. The provisional structure for the WGRC is to have one delegation acting as Chair and four delegations as Vice Chairs in order to avoid the domination of the WGRC by one delegation. It has been decided that UK would chair the WGRC with Iran, Mexico, Russia and Sudan in the Vice Chairs.

Third, chemical industries in many states, particularly in developing nations, have shown exponential growth in their activities, which demands immediate attention. The modern day chemical industry focuses more on production of chemicals through smaller production facilities. More importantly, chemistry in the 21st century is fast becoming a multidisciplinary subject with addition of biotechnology, nanotechnology, and so on. Hence, the CWC would need to factor in such developments. While adjusting to the new challenges, there is also a need to maintain a balance between rights and obligations; and factor in the rights and interests of the developing countries. Immediate attention is to be paid to the lack of progress in verification means.

Fourth, the issue of development of 'non-lethal' chemical agents and various advancements made in chemical sciences and technology demands attention. Two significant incidences that occurred during the

last few years are indications that non-lethal chemical weapons issue require immediate attention. The Moscow theatre hostage crisis during 2002 where a Fentanyl derivative was used, clearly demonstrates that even a non-lethal chemical could turn out to be a fatal weapon. Recently, British authorities thwarted a complex terrorist plan to blow ten aeroplanes flying from Britain to the United States overhead the Atlantic by using liquid explosives; here chemical properties of particular liquids and gels are used to convert them into explosive bombs.

Finally, the threat posed by chemical terrorism remains a potent cause of concern.

Conclusion

The progress of the CWC during its first decade is praiseworthy. In the years to come, it needs to concentrate more on two geographical areas that are of serious concern with respect to the universality and nonproliferation value of CWC; namely, North Korea and a few states in West Asia. Till date, approximately 67 per cent of OPCW inspector days have been spent at destruction facilities. Hence, until and unless chemical weapon possessor states accelerate the process of destruction, it is going to be a big challenge of the 21st century. United States and Russia would be required to look for some 'out of box' solutions to destroy their existing stockpiles.

In short, interesting and challenging days are ahead for the CWC and both developed and developing countries should see to it that the CWC, one of the most successful disarmament treaties, continues to lead by example.

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Protecting Homeland: US Biodefence Programme Post 9/11

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Reports of the US secret biodefence activties surfaced in 2001 and questions were raised regarding the nature of the following programmes: Project Jefferson, Project Bacchus and Project Clear Vision. A modest estimate shows that the US government has spent or allocated over $ 40 billion since 2001, till the fiscal year 2008.

"Bioterrorism is (...) a threat to every nation that loves freedom. It's important that we confront these real threats (...) and prepare for future emergencies."

US President George W. Bush, 12 June 2002.

"Bioterrorism is a high consequence but low probability event." While the debate over this statement continues to dominate national security discourse across the world, the United States of America (US) has been aggressively pursuing biodefence strategy to thwart any kind of threat emanating from a biological pathogen or weapon. Ever since Anthrax spores reached the US government offices through postal mails, the annual government spending on biodefence programmes increased manifold. The government has spent a substantial amount of its resources over the past six years to prepare and to protect the nation against any bioterrorist attack. This paper aims to discuss, or rather document, the emergence and growth of various national biodefence programmes with special reference to the US biodefence programme.

Historically speaking, the biodefence programme in the US was initiated in 1969 when the then President Richard Nixon ordered the destruction of all bio-weapons stockpile and terminated the offensive bio-warfare programme, under the directive of National Security Decision Memorandum (NSDM 35 and NSDM 44). Both the Memorandums outlawed offensive bio-weapon and toxin programmes respectively and authorized biodefence activities. This led to the establishment of the US Army Medical Research Institute of Infectious Disease (USAMRIID) at Fort Detrick, Maryland, primarily to continue the development of

vaccines and antibiotic research. Again, in the late 1980s, under Programmatic Environmental Impact Statement (PEIS) which covered biological pathogen research, testing and evaluation, the US government clarified that its biodefence programme does not include weaponization of biological pathogens, thus, professing transparency about its activities. However, there was a shift from the 'policy of relative openness to secrecy in the 1990s,' and the US biodefence programmes maintained a low profile. Reports of secret biodefence activities surfaced in 2001 and questions were raised regarding the nature of the following programmes: Project Jefferson, Project Bacchus and Project Clear Vision. The last two projects were undertaken by the Defense Threat Reduction Agency (DTRA) and the Central Intelligence Agency (CIA), respectively.

The US biodefence programme continued to remain covert until the advent of Project BioShield in 2003, which was pursued overtly with government sanctions. Project BioShield became a law in July 2004. Under the Project, efforts have been made to develop and make available effective drugs and vaccines to protect civilian population against any biological and chemical weapon attacks. This is a ten-year programme that aims to acquire medical countermeasures for civilian use, for which the administration appropriated $6 billion for 10 years, to purchase countermeasures to achieve three primary objectives:

1. to expedite the conduct of National Institutes of Health (NIH) research and development on medical countermeasures (drugs and vaccines) based on recent scientific discoveries;

2. to give Food and Drug Administration (FDA) the ability to make new treatments available in emergency situations by establishing a fast-track system of safety approval and regulation for pharmaceutical companies; and

3. to ensure that resources are available to pay for "next-generation" medical countermeasures (drugs and vaccines) for Strategic National Stockpile programme, formerly the National Pharmaceutical Stockpile (NPS).

According to one conservative estimate, the biodefence spending and allocations since 2001 have reached approximately $40 billion mark. Arguably, an increasing vulnerability towards bioterrorism, intentional use of disease causing pathogens by 'lone wolves' and natural outbreaks of emerging and remerging infectious diseases post 9/11, prompted the Washington administration to devise plans to protect the civilian population at large. Hence, germinated the idea of protecting Americans from biological weapons. At least 18 Homeland Security Presidential Directives (HSPDs) have been passed since 2001 and among them, three are directly related to the country's overall biodefence efforts. They are: HSPD-8 on National Preparedness (December 2003), HSPD-10 on Biodefence for the 21st Century (April 2004) and HSPD-18 on Medical Countermeasures against Weapons of Mass Destruction (WMDs) (January 2007). The classified version of HSPD-10, which is conceived by the Homeland Security Council (HSC), elaborates the US biodefence strategy. It specifies the duties and roles of each federal agency involved in biodefence, including, Department of Health and Human Services, Department of Homeland Security.

The unclassified version of HSPD-10 provides a comprehensive framework for the US biodefence programme; to protect America and Americans from any bio-terror attack in post 9/11 security environment. It out lines four essential pillars of overall US biodefence programme, with specific directives, namely:

1. Set awareness with BW related intellegence, periodic vulnerability assesments and anticipation of future and emerging threats;

2. Prevention and Protection through interdiction and critical infrastructure protection;

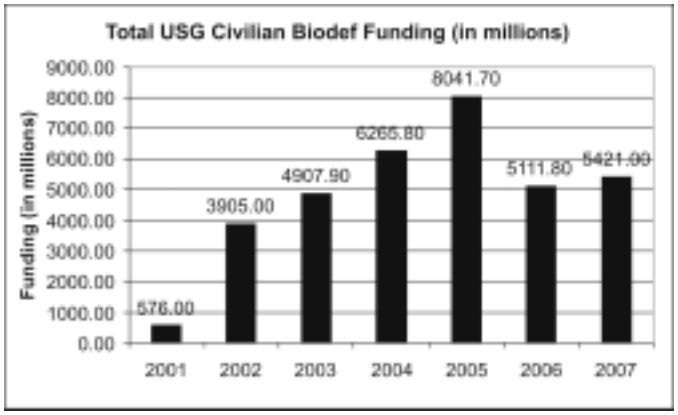
3. Surveillance and Detection, which includes BW attack warning and attribution to ascertain the perpetrator and method of attack;

4. Response and Recovery with response planning, mass casualty care, risk communication, medical countermeasures, and decontamination.

Another major initiative is the BioWatch Programme under the Department of Homeland Security (DHS) for providing early warning of pathogen release with a series of pathogen detectors installed in various US cities along with Environmental Protection Agency (EPA)'s air quality monitors. Though it is not known exactly how many cities are covered under the BioWatch initiative, sources indicate that over 30 cities are presently covered and that it would soon cover another 90 cities. The BioWatch equipment is reportedly installed in the major cities of Philadelphia, New York City, Washington DC and Boston among others. The programme reportedly requested $118 million in fiscal year 2005 to support and expand BioWatch, including development of improved monitors.

Figure-I

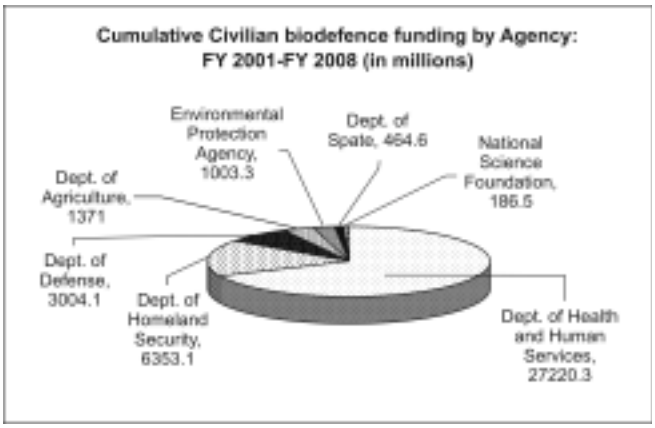
Total Civilian BioDefence Funding (in Millions)



Largely, biodefence funding focuses on research and development, acquisition of medical countermeasures and protective equipment, medical surveillance, preparedness and environmental detection. Though there is no centralised resource for tracking civilian biodefence budgets and spending of over ten federal departments and agencies involved in this mammoth programme, a modest estimate shows that the US government has spent or allocated over $40 billion since 2001, till the Fiscal Year 2008. The annual bioweapons related spending grew rapidly from Fiscal Year 2001 to Fiscal Year 2005 and reasonably decreased in subsequent years (See, Fig-I). Both, Department of Health and Human Services (DHHS) and Department of Homeland Security (DHS), are primarily responsible for civilian biodefence, and account for over 90 percent of budgeted funds. Among all the departments and agencies, DHHS topped the list of beneficiaries with $27,220.3 million followed by the DHS with $6,353.1 millions and Department of Defense (DoD) with 3,004.1 million. The DHHS funding is meant for its major constituent agencies and offices such as Food and Drug Administration (FDA), Health Resources and Services Administration (HRSA) and the Centers for Disease Control (CDC) among others. The CDC BioSurveillance initiative, a project to develop an early-warning system tracking the spread of dangerous biological agents, would receive a boost in Fiscal Year 2008. The other major agencies involved, namely Department of Agriculture, Environmental Protection Agency, Department of State and the National Science Foundation share approximately 3, 025.4 millions in this period (See Fig-II). In the Fiscal Year 2008, the outgoing Bush Administration has proposed an additional $6.77 billion which is estimated to be $550 million more than the amount that US Congress appropriated for Fiscal Year 2007.

Figure-II

Cumulative Civilian BioDefence Funding FY 2001-FY 2008



These spending and infrastructural overhauling notwithstanding, many aspects of the biodefence programme has been criticized, especially the growing numbers of people involved in handling biological pathogens in sprouting biolabs and facilities around the country. One report stated that there are around 20,000 people working at 400 sites in the US, a ten-fold increase in research since 2001. These figures were given by the Sunshine Project which warned that all these biological defence efforts might produce an incident with greater consequences than an actual act of bioterrorism, either through an accident or by a deranged researcher. It cited cases of institutions carrying out research using live disease agents and the loopholes. Also, the group aired its reservations on the horizontal proliferation of biodefence programmes to other countries. Moreover, some US scientists, disputing the very premises and implementation of the biodefence spending, think that through this stepped up biodefence efforts, large chunks of government funding diverted from research on 'pathogens that cause major public health problems (like Diabetes, Cancer and other life threatening most prevalent ailments) to obscure germs (Anthrax, hunta virus, Small pox, etc.) the government fears might be used in a bioterrorist attack'.

Criticism aside, it is reported that the U.S. Centers for Disease Control and Prevention has yet to develop a criteria for judging the success of various biodefence efforts underway in the US. Till now, there is no statistical proof to show that the money allocated for each federal department or agency is well spent and that the measures have been effective as well.

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North Korea's Chemical Weapons Programme

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The North Korean chemical weapons programme is shrouded in mystery. North Korea is capable of producing all of the traditional warfare agents.

Recently, concerns have been voiced about the North Korean biological and chemical weapons programme. Both the biological and chemical weapons programmes in North Korea were started in modern times. A study of these programmes can provide insights as regards to the imperatives for a state for initiating a biological and chemical weapons programme in modern times.

Very little information is available in the public domain when it comes to the North Korean biological and chemical weapons programme. The reasons were, first, the inaccessibility of North Korea in terms of its political and military contacts. Second, North Korea is a party to the global biological disarmament treaty, Biological and Toxin Weapons Convention (BTWC); however, this treaty lacks verification mechanism. North Korea is not a member of the Chemical Weapons Convention (CWC), which has a rigorous verification and inspection mechanism. Third, no information is available regarding the research centers, industry capacities in North Korea. Virtually, nothing is known about the North Korean biological weapon programme.

North Korea began to develop its chemical industry following the Korean War. According to a study by the South Korean Ministry of National Defence (MND), North Korea did not embark upon the pursuit of chemical weapons until after 1961, when Kim II-Sung issued his "Declaration of Chemicalisation". According to US sources, Pyongyang was able to produce large quantities of chemical agent by the late 1980s.

According to maps provided in several MND white papers, North Korea has eight chemical research institutions spread throughout the country. Some of these institutions are in proximity to three chemical production

facilities. These maps also indicate that North Korea possesses six chemical storage facilities concentrated near the border with South Korea.

Reports point out that North Korea is generally thought to be capable of producing all of the traditional chemical warfare agents (nerve, blister, blood and choking), although it may require imports of some specific precursors to produce nerve agents which are relatively more difficult to fabricate than the first generation blister, blood and choking agents. In January 2004, the BBC reported that North Korea had been testing chemical weapons on prison inmates. Defector Kwon Hyok told BBC News that he was the head of security at "prison camp 22" in Haengyong in 1993 and had witnessed chemical experiments carried out on political prisoners in gas chambers.

North Korea is capable of using a variety of delivery systems to disseminate chemical agents, including artillery, multiple rocket launchers, mortars, aerial bombs, and missiles, as well as Special Forces. The role of chemical weapons in North Korea's military planning is unknown, but it is believed that it may be based partially on old Soviet doctrine.

Chemical weapons are weapons for all eventualities, designed for immediate tactical advantage on the battlefield or long-term strategic gains. They can be employed to harass an enemy or to attack a fortified position. The US and South Korean forces operate on the assumption that North Korea would use chemical weapons against both military and civilian targets. The North Korean case brings out the fact that geographical proximity between two hostile countries renders the use of nuclear weapon neglible, at the same time makes the threat of use of chemical weapons more credible.

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ARMS CONTROL

29 June 2007 U.N. Ends Iraq Weapons Monitoring

More than four years after Saddam Hussein's ouster, the Security Council on Friday voted to shut down the U.N. inspection bodies that helped uncover his illegal weapons programs but were then banned from Iraq by the United States.

The U.S. had been trying since 2005 to get the Security Council to wrap up the work of the inspectors. Iraq's new leaders had also been lobbying for the council to stop using the country's oil revenue to pay the salaries of the inspectors, and the resolution adopted by the council frees up $60 million dollars for transfer to the Iraqi government.

The resolution terminates the mandate of two U.N. bodies responsible for overseeing the dismantling of Saddam's programs to develop nuclear, chemical and biological weapons and long-range missiles. It was approved by a vote of 14-0 with Russia abstaining.

Britain's U.N. Ambassador Emyr Jones Parry said that for some time neither of the U.N. bodies "have been in a position to carry out their functions in a way which serves the aim of disarmament and nonproliferation." The focus must now be on ensuring that Iraq itself supports international efforts to prevent the spread of weapons of mass destruction, he said.

The inspectors pulled out of Iraq just before the March 2003 U.S.-led invasion and were barred by the U.S. from returning. In a letter to the council in May 2003, the U.S. and Britain said they were taking over responsibility for Iraq's disarmament.

Since leaving Iraq, the U.N. Monitoring, Verification and Inspection Commission known as UNMOVIC has continued to study satellite imagery in efforts to keep track of equipment with dual civilian and military uses that could be used in biological, chemical and missile programs. On Thursday, the commission published a 1,200-page account of Iraq's weapons programs and the lessons learned in the verification process.

UNMOVIC is the outgrowth of a U.N. inspections process created after the 1991 Gulf War in which a U.S.-led coalition force ousted invading Iraqi troops from Kuwait. Under terms of the cease-fire, Iraq agreed to dismantle its unconventional weapons programs and long-range missiles.

In the 1990s, U.N. inspectors uncovered significant undeclared banned weapons programs, including a biological warfare program that Saddam sought to conceal, the chemical nerve agent VX and other advanced chemical weapons capabilities, and the indigenous production of long-range ballistic missile engines.

Inspectors from the International Atomic Energy Agency helped unravel the true extent of Iraq's clandestine nuclear program, which never succeeded in producing a working weapon.

UNMOVIC's Acting Executive Chairman Demetrius Perricos warned the council in a final briefing Friday that the possibility of terrorists or insurgents getting their hands on toxic chemical agents "is real," especially in the present security environment in Iraq.

He also cited a number of outstanding issues that "cannot be resolved and therefore contribute to the residue of uncertainty" about Iraq's chemical, biological and missile

programs. These included the fate and whereabouts of 25 Al Samoud II missiles that were not destroyed before inspectors left in 2003, 326 SA2 missile engines, the status of the Muthanna chemical weapons facility, and the fate of liquid anthrax dumped in Baghdad in 1991.

Russia's U.N. Ambassador Vitaly Churkin objected to the council's failure to comply with previous resolutions demanding that the inspectors certify that Iraq has no weapons of mass destruction before terminating their mandate.

"The adoption of this resolution does not give any clear answers to the existence of weapons of mass destruction in Iraq," Churkin said.

U.S. Ambassador Zalmay Khalilzad said the efforts of the U.S.-led multinational force in Iraq and the U.S. Iraq Survey Group, which investigated Iraq's weapons programs from 2003-2005, "have demonstrated that the current government of Iraq does not possess any weapons of mass destruction or delivery systems."

"This is an historic day, it turns a new page, opens a new chapter with regard to Iraq" and weapons of mass destruction.

Iraq's U.N. Ambassador Hamid Al-Bayati said the adoption of the resolution turns the page on "an appalling chapter in Iraq's modern history, which had a destructive impact on the people of Iraq."

Source:http://www.huffingtonpost.com/huff-wires/20070629/un-iraq-weapons-inspectors/

11 July 2007 Activists Question Army CW Disposal Plan at Umatilla

Environmentalists have taken issue with the U.S. Army's decision to begin burning a new chemical agent at the Umatilla Chemical Agent Disposal Facility in Oregon without first replacing the filters in the incinerator's smoke stack.

The plant last week completed disposal of weapons containing the nerve agent sarin, and is scheduled to begin eliminating VX nerve agent weapons following a changeover period.

The Oregon Environmental Quality Department last month voided a permit requirement that the Army after finishing off the sarin replace carbon filters intended to catch any weapons agent that was not fully incinerated. One agency official said there is no risk in not changing the filters because sensors in the smoke stacks have never detected any chemical agent entering the atmosphere through the stacks.

The environmental advocacy organisation Group Against Smog and Pollution said it is "very concerned about the potential impacts that could result if the carbon filters are not replaced between different agent campaigns. What will result from mixing [sarin], VX, heavy metals, dioxins, furans … and then collecting them in the PFS carbon?"

Morrow County, the county next to Umatilla County, said in a filed comment that it "does not agree with the proposed changes in the (Army's disposal permit). There appears to be a lack of supporting information that ensures the carbon absorption in the units will not be adversely affected by these changes."

Another Army plan to incinerate mustard agent mixed with mercury at Tooele, Utah, has come under fire from the Chemical Weapons Working Group. The watchdog group has called for an environmental impact statement on the project under the National Environmental Policy Act.

Source:http://204.71.60.35/d_newswire/issues/2007/7/11/db9b1329-c649-46e9-ab17-9e16b05e42e4.html

11 July 2007 Senators Urge Accelerated Chemical Weapons Disposal

Four U.S. senators have charged the Defence Department with neglecting destruction of chemical weapons in Colorado and Kentucky while they introduced a measure to speed up the process.

"DOD has been stonewalling for years and it is time for them to produce results," said Senator Jim Bunning.

Chemical weapons disposal plants have yet to be built at the Blue Grass Army Depot in Kentucky and the Pueblo Chemical Depot in Colorado. The current schedule has operations beginning in 2014 at both sites, with weapons disposal ending in 2020 at Pueblo and 2023 at Blue Grass.

Facilities at all other U.S. chemical storage sites have begun or completed their work.

Legislation sponsored by Colorado and Kentucky's senators seeks $49.3 million in extra funds for chemical weapons disposal and would set a 2017 deadline for the destruction of the U.S. stockpile. It also would require biannual updates from the Pentagon.

"It's a kick in the pants that I think the Pentagon needs in order to get the Kentucky stockpile on a reasonable course for disposal," said Craig Williams, director of the Kentucky-based watchdog Chemical Weapons Working Group.

The Defence Department "has consistently failed to provide sufficient funding for this program, and thus delayed the destruction of chemical weapons on site," said Senator Wayne Allard.

Source:http://204.71.60.35/d_newswire/issues/2007/7/12/767fa935-b251-45cf-9f1a-769e3f5d045f.html

DISARMAMENT

6th BWC Review Conference

In his concluding remarks at the 6th BWC Review Conference, 20 November – 8 December 2006, held at Geneva, Ambassador Masood Khan of Pakistan, President of the conference, said, "We have succeeded. I think we can say without any exaggeration that this is a historic moment, both for the Biological Weapons Convention and for multilateral security and disarmament. The documents that we have produced are not an empty cosmetic consensus. They are a win-win result for all."

Source:http://www.nti.org/d-news wire/issues/2007-5-3.html

Expert Calls for Higher Scrutiny of Foreign Students

Former weapons inspector Rod Barton is calling for Australian universities to increase their scrutiny of foreign science students, to ensure they are not intent on using their newfound knowledge for dangerous purposes.

Source:http://www.nti.org/d_newswire/issues/2007_5_3.html

10th Anniversary of the CWC

CWC celebrated its 10th Anniversary on 29 April 2007. On the occasion, Ban Ki-Moon, the United Nations Secretary General observed that the CWC has made significant strides in eliminating an entire category of WMD. He also praised the work done by the Organization for the Prohibition of Chemical Weapons (OPCW), under whom the CWC is carrying out its activities.

S***ource: http://204.71.60.36/d_ newswire/issuesrecent_stories.asp?category =chemical***

13 July 2007 Japanese Cult Nerve Agent Maker Loses Appeal

A member of the Aum Shinrikyo cult today lost his appeal of a death sentence handed down for his part in the deadly 1995 sarin nerve agent attack in Tokyo.

The Tokyo High Court upheld the 2003 conviction of medical doctor Tomomasa Nakagawa. The nerve agent Nakagawa helped to produce killed 12 in the subway system and claimed seven victims in an earlier attack, a court spokeswoman said.

Nakagawa was also convicted of involvement in other murders carried out by the cult, AP reported.

More than 12 cult members, including leader Shoko Asahara, have been sentenced to death.

Source:http://www.nti.org/d_newswire/issues/print.asp?story_id=89FAAB06-DD62-442C-A462-31E9BBF3E213

12 July 2007 Albania First Nation to Eliminate Chemical Arsenal

Albania is the first nation to completely eliminate its full stockpile of chemical weapons, the Organisation for the Prohibition of Chemical Weapons announced on April 27.

The Chemical Weapons Convention verification body said it confirmed yesterday that Albania had incinerated more than 16 metric tons of mustard, lewisite, mixed mustard/lewisite, adamsite and chloroacetophenone agents.

The exact provenance of the weapons remains unclear. Albania and five other treaty nations have declared chemical stockpiles totaling more than 71,000 metric tons. India, Libya, Russia, South Korea and the United States are continuing efforts to eliminate their arsenals of banned materials such as VX nerve agent and mustard blister agent. More than one-third of the total amount had been eliminated by the end of June, according to a OPCW press release.

Source:http://204.71.60.35/d_newswire/issues/2007/7/12/6a4e023a-03b8-4e59-a6be-14c396f25003.html

10 July 2007 Umatilla Chemical Depot Destroys Last Sarin Weapons

The Umatilla Chemical Depot in Oregon on Sunday finished disposal of its stockpile of weapons containing the nerve agent sarin, the U.S. Army reported.

The Army began its disposal campaign at Umatilla in September 2004 and has destroyed more than 155,000 munitions and 1,000 tons of the chemical agent. The incineration project junked 155 mm artillery projectiles, M55 rockets, 8-inch projectiles, bulk chemical containers, and 500- and 750-pound bombs.

After a five-month changeover period, the depot is scheduled to begin destroying VX nerve agent weapons. The facility is subsequently set to burn its stock of mustard agent.

Source:http://news.greencross.ch/index.php?mode=singleview&action=overview&table=news_english&language= english&id=344

NATIONAL AND INTERNATIONAL DEVELOPMENTS

India came out with WMD and their Delivery Systems Bill in the year 2005 which could be viewed as India's reassurance of its commitment towards prohibition of WMDs. As per this bill WMD proliferation is a criminal offence. Private Companies are also liable for prosecution under this bill.

Source:http://204.71.60.36/d_ newswire/ issues/recent_stories.asp? category= chemical

25 July 2007 Kerala MP Submits First Memorandum to President

P.C. Thomas, an MP from Kerala, became the first parliamentarian to submit a memorandum to Pratibha Patil Wednesday, her first day as president, about the outbreak of viral fever in the state.

Thomas of the Kerala Congress (J) presented the memorandum to her while greeting her immediately after she took oath at the Central Hall of parliament.

The memorandum urged the president to declare the fever a 'national disaster'.

It said that a large number of people in Kerala were suffering from a 'peculiar type of viral fever and diseases like Chikungunya, dengue and Japanese fever and (that) other types of epidemics are spreading in several parts of the country'.

He gave copies of the memorandum to Prime Minister Manmohan Singh, Health Minister Anbumani Ramadoss and Minister of State for Environment and Forests S. Regupathy

Source:http://news.monstersandcritics.com/india/news/article_1334790.php/Kerala_MP_submits_first_memorandum_to_president

11 July 2007 U.S. Launches Pandemic Rating System

The U.S. Health and Human Services Department has initiated a pandemic rating system similar to that used to grade hurricanes, scaling viral events from one to five based on their severity, the agency's chief response planner said on 2 July, 2007.

The Pandemic Severity Index, formally announced in February, allows people to "conceptualise what we mean" when officials begin talking about the extent of a widespread infectious event, said Rear Adm. Craig Vanderwagen, HHS assistant secretary for preparedness and response.

"We can talk about a category one which would be basically a seasonal flu which is maybe a little more than the usual seasonal flu up to a category five, which would be a 1918-like event or maybe even more severe than that," he said at meeting of the National Infrastructure Advisory Council here.

"I think we all live under the specter of a 1918-type episode," said Erle Nye, Chairman of the advisory committee.

The 1918 flu pandemic killed between 50 and 100 million people worldwide in about a year and a half.

The advisory board recently submitted a report to the Health and Human Services Department designed to help the government set the vaccination schedule for crucial health and emergency response workers during a pandemic. In the event of limited resources, those workers most vital to the continued functioning of the emergency and health care response systems would be the first to receive prophylactic care.

Source:http://204.71.60.36/d_newswire/ issues/recent_stories.asp? category= chemical

11 July 2007 Bush Boosts Biodefence Budget Request

The Bush administration's fiscal 2008 budget request would provide $309 million more for civilian biodefence than its previous request, boosting funding for the Health and Human Services, Defence and Agriculture

departments, the University of Pittsburgh's Center for Biosecurity sad in June.

The Homeland Security Department and other agencies, though, would receive less funding, according to an article written by two center analysts.

The White House request for civilian biodefence totals $5.42 billion. Nearly 80 percent of the funds would go to Health and Human Services, which researches treatments for infectious diseases through the National Institutes of Health and the Centers for Disease Control.

The CDC BioSurveillance initiative, a project to develop an early-warning system tracking the spread of dangerous biological agents, would receive a $10 million boost for a total budget of $88 million.

The budget would nearly double the budget of the U.S. Agriculture Department biodefence program, for a total of $340 million. Funding for the Food Emergency Response Network would increase to $19 million, from $2 million from the present Fiscal Year. The network of food laboratories is expanding across the country and being equipped to rapidly test large volumes of food for dangerous biological agents.

The budget of the Agricultural Research Service would be increased to $58 million, from $23 million. The service researches sources of manmade and natural food contamination and creates systems to survey the food supply and detect biological threats. Pest detection and animal health monitoring programs would receive a $42 million increase to total $119 million.

The Defence Department would receive a 23 percent increase in funding for biodefence projects. Pentagon programs include civil support teams to respond to WMD attacks and a threat reduction program to locate, collect and destroy deadly biological agents produced by the former Soviet Union.

The Homeland Security Department would receive $26 million less in 2008 than in the 2007 budget cycle, a 7 percent reduction attributable to the elimination of the Metropolitan Medical Response System, a program for preparing medical first responders for public health emergencies, according to the center.

The Environmental Protection Agency would experience across-the-board cuts in funding for its homeland security initiatives in the proposed budget, including a decrease of 8.5 percent or $14.2 million for biodefence.

Requested funding for State Department biodefence programs would fall 10.4 million, to $53.5 million.

Source:http://204.71.60.36/d_newswire/issues/2007/7/11/f9b83014-6dcb-4507-ac24-a93cc4eb0216.html

12 July 2007 Europe and Asia Consider Bioterrorism Defences

The European Commission issued a policy paper yesterday addressing the need for greater transnational cooperation to secure biotechnology and prevent bioterrorist attacks.

"Although in the past terrorists used explosives or improvised explosive devices, they may in the future resort to nonconventional means such as biological weapons or materials," said Franco Frattini, a European Commission vice president.

"Therefore, risks from dangerous biological materials and pathogens have to be reduced and preparedness fostered in Europe through a comprehensive approach aiming at achieving a better preparedness in this area," he added.

The report noted that as Europe's biotechnology sector grows along with its global commerce, dual-use knowledge and equipment could fall into terrorist hands.

Meanwhile, security experts from 10 Asian countries convened in Jakarta, Indonesia, for a two-day discussion of bioterrorism defence strategies, the Antara news agency reported on March 28.

Representatives from the Association of the Southeast Asian Nations intend to trade ideas and intelligence on combating bioterrorism, said Bambang Kuncoko, a senior officer with the Indonesian National Police.

Interpol and civilian experts are also scheduled to take part in the discussions, Bambang added.

Source:http://204.71.60.35/d_newswire/issues/2007_7_12.html

12 July 2007 U.S. Narrows Picks for Biological Defence Site

The U.S. Homeland Security Department yesterday announced five sites as finalists for a planned $450 million biological defence facility.

Plans call for the National Bio- and Agro-Defence Facility to have the highest level security rating, "BSL-4," allowing it to handle the deadliest biological agents. The facility would also be the only laboratory in the country to combine studies of human and agricultural disease with research into vaccine countermeasures for animal diseases and animal pathogens that could spread to humans.

"The NBAF, when built, will enhance our nation's defence against animal and plant disease threats," DHS Undersecretary Jay Cohen said in a statement.

Texas A&M University, which has been embarrassed recently by failures to disclose research accidents, was not among the five finalists.

The proposed 520,000-square-foot facility, which promises at least 300 lab-related jobs, is being planned by Homeland Security and would be managed by the Agriculture and Health and Human Services departments.

Finalist sites for the facility are located in Mississippi, Kansas, Texas, Georgia and North Carolina. The Bush administration was originally considering 18 sites spread across 12 states, including the Lawrence Livermore National Laboratory in California.

Experts are scheduled to complete an environmental impact study of the remaining sites in 2008. The Homeland Security Department plans to choose a final site next year, and construction is expected to begin in 2010. The facility is scheduled to start operating in 2013 or 2014.

Senator Pat Roberts expressed optimism that Kansas State University will be chosen to house the facility. "We are very well suited and I think we can compete with anybody," he said. "We stand ready to up the ante or do whatever is necessary.

Source:http://204.71.60.36/d_newswire/issues/2007/7/12/4fe519b6-1752-4385-983f-4874c534doc2.html

11 July 2007 Hearing Set on Chemical Agent Waste Transfer

A hearing is scheduled for Monday in federal court in Indiana on an injunction request to halt U.S. Army transfers of nerve agent disposal waste to Texas.

The Army in spring began shipping wastewater produced by VX nerve agent neutralization in Newport, Indiana, to a

private incineration facility in Port Arthur, Texas. Local and national environmentalists teamed up in May to file suit against the Army transfers of hydrolysate and are seeking a court order to prevent further shipments.

The plaintiffs have argued that the neutralized waste is still harmful and that the Army evaded normal procedures before beginning the transfers. The environmental groups also have petitioned Representative Ted Poe and state and local officials to intervene.

The Army voluntarily stopped wastewater transfers pending the federal court issues a decision. Roughly 360,000 of the proposed 2 million gallons of wastewater had been hauled by tanker truck to Texas before shipments halted.

Officials in Pueblo, Colo., site of another chemical depot, are closely following the case. Officials there have urged the depot to conduct on-site treatment of wastewater produced by mustard agent neutralization at a facility that has yet to be built. They argue that lawsuits and delays could result from shipping the waste.

Source:http://204.71.60.36/d_ newswire/issues/recent_stories.asp? category=chemical

9 July 2007 South African Anthrax Scare Hospitalizes 11

Possible exposure to anthrax led to the hospitalization Friday of 11 people in South Africa.

A post office in Alberton, south of Johannesburg, notified police of a "suspicious" envelope containing an unknown powder, Inspector Juanita Kilian said on South African public radio.

"The envelope was filled with powder.... At this stage we cannot confirm that the contents were anthrax," Kilian said.

Authorities decontaminated the site and sent those exposed to the powder to a hospital. Forensic testing is being conducted at a police laboratory in Pretoria

Source:http://www.nti.org/d_newswire/issues/2007/7/9/34b75e25-9c1d-4d1e-810f-4a7cc9646fa4.html

Role of NGOs

A New Delhi based NGO, Gene Campaign, organised a 'Jansunwai' on 30 March, 2007, at Jantar Mantar, New Delhi, to address the issue of Agrarian Crisis in India and to frame a set of recommendations to resolve them.

RECENT DEVELOPMENTS IN SCIENCE AND TECHNOLOGY

11 July 2007 Iowa Funds Pneumonic Plague Vaccine Research

Scientists at Iowa State University have received more than $150,000 from the state of Iowa for a project that aims to make a protective vaccination against pneumonic plague. Pneumonic plague's ability to quickly spread and resist antibiotic treatment makes it a likely biological weapon choice for terrorists, said researcher Michael Wannemuehler, who is leading a three-professor team on the project.

He said his team's research could also have applications in the fight against anthrax, influenza and severe acute respiratory syndrome.

"If we can immunize against viral pathogens so there's a good immune response, we may be better able to control diseases," Wannemuehler said.

Source:http://www.nti.org/d_newswire/issues/2007_7_11.html

11 July 2007 D.C. Metro Floated as Anti-Nerve Agent Test Site

A lobbyist has sought congressional backing for a nerve agent antidote pilot project in the Washington, D.C., transit system.

Lynn Johnson, lobbyist for King Pharmaceuticals Inc., said he pitched the plan to House Appropriations Committee member Zach Wamp earlier this year. The proposal sought federal funding to disperse disposable injectors containing nerve agent antidote around the transit system covering the capital region.

"If there is a nerve gas attack, you need to have supplies close at hand," said James Green, an executive at the Tennessee pharmaceutical firm. King Pharmaceuticals alone provides the U.S. military with the auto-injector nerve agent antidote, along with supplying local emergency agencies, states and the governments of other nations.

The antidotes, atropine and pralidoxime, must be used within 15 minutes of an attack to work, Green said. The auto-injector pens contain one dose of the drug and are designed to be easily administered.

The Washington, D.C., subway is a potential terrorist target and would be a perfect proving ground for the injectors, Johnson said. Terrorists killed 12 people with the nerve agent sarin in a 1995 Tokyo subway attack. Washington Metropolitan Area Transit Authority spokeswoman Cathy Asato said the agency was never contacted about the project. While the agency has conducted subway attack drills, it is not planning to install auto-injectors any time soon, she added.

There was much congressional interest in the injectors three years ago but other security priorities took precedence and obscured the project, Green said.

King Pharmaceuticals do not expect Congress to act on the proposal this year, AP reported.

Source:http://www.nti.org/d_newswire/issues/2007/7/11/86BAB2B5-CABF-47BC-A7C7-36516D8F5B48.html

RECENT PUBLICATIONS IN THE FIELD

1. Arms Control Association, *The 2006 Biological Weapons Convention Review Conference: Articles and Interviews on Tackling the Threats Posed by Biological Weapons*, Washington DC, November 2006.

2. Borrie, John, "The limits of modest progress: the rise, fall and return of efforts to strengthen the biological weapons convention", *Arms Control Today*, 36 (8), October 2006: 18-22.

3. Choffnes, Eileen; Stanley Lemon and David Relman, "[A brave new world in the life of sciences] The breadth of biological threats is much broader than commonly thought and will continue to expand", *Bulletin of the Atomic Scientists*, 62 (5), September/October 2006: 26-33.

4. Chyba, Christopher, "Biotechnology and the challenge to arms control", *Arms Control Today*, 36 (8), October 2006: 11-17.

Book Review

Mark Wheelis, Lajos Rozsa and Malcolm Dando, *Deadly Cultures,* Cambridge, Massachusetts: Harvard University Press, 2006

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Deadly Cultures has been edited by three leading authors, Mark Wheelis, Lajos Rozsa and Malcom Dando. The seventeen chapters have been authored by experts in the field of biological weapons. Mostly authors have written about biological weapon programme in their own countries. Important among them are- US, UK, Canada, France and Soviet Union. They draw from primary sources to trace the history of offensive biological weapons programmes in various countries from the post WW-II period, and until its termination. The book further probes the programmes of countries like Iraq and South Africa that have allegedly pursued offensive biological weapons programmes even after the end of WW-II.

The book addresses two critical themes related to the issue of why countries initiate offensive biological weapons programmes and the changing role of biological weapons, *vis-à-vis* other weapons. The perception about biological weapons and in that sense, their military utility, has been in a flux. In the early times of the Cold War, biological weapons were considered to rival nuclear weapons in strategic importance. However, soon they lost prominence as far as strategic planning was concerned, to again re-emerge in the present international security discourse, given the inevitable link between biological weapons and non-state actors.

The authors cite a spectrum of reasons for the initiation of a biological weapons programme by countries. The two reasons for the initiation of the US programme were – arguments bolstered by deterrence theory and the conviction that the US must be prepared to retaliate. John Moon demarcates the US programme (which

began in 1945) with the year 1969 as the benchmark. In 1969, the US policy shifted from offensive to defensive biological research. The US biological weapons efforts were a part of its concern for 'preparedness', lack of which would tantamount to weakness in a nation's armor. According to Moon, the crucial factors that paved the way for US renunciation were normative and moral concerns.

The UK biological weapons programme too was a 'preparedness' measure directed at and in response to the threat posed by a German or Soviet programme. According to Brian Balmer, out of all the countries under study, the British biological weapons programme was the most significant in terms of scale, scope and degree of integration with the state.

Rejecting popular theorizing of the Canadian biological programme as having been an appendage of the powerful tripartite allies of World War II, Donald Avery observes that, it was dependent on the US programme only for practical reasons and thus, ran its own course. When it comes to France, apart from the early eight years (1948-1956) of biological weapon research, they have received less attention as compared to nuclear weapons. The Soviet interest in offensive biological warfare has been traced to the year 1928. However, no authentic accounts were available to estimate the scope, integration and authenticity of a Soviet biological weapons programme.

The reason for the Iraqi biological weapons programme, according to Graham Pearson, was perhaps an extension of the chemical weapons programme. The South African programme, with its initiation in 1981, its secretive nature and problems related to its destruction in a politically unstable phase, poses an insightful future case study in many of the issues related to biological weapons.

The role of the communist influence in Warsaw Pact Countries that led to the initiation of biological weapons research is also mentioned in the book. At the end of World War II, Non-Soviet Warsaw Pact countries – Hungary, Romania, Czechoslovakia, Poland, German Democratic Republic and Bulgaria carried on offensive biological weapon programmes by involving local scientists, conducting military research and assassinating political dissidents with biological agents.

This book was written with a view to generate an informed public debate and create a base for informed public policy decision, thereby, contributing to the overall biological disarmament regime. The book also throws light on new and emerging biological weapons agents like anti-crop and anti-animal agents and provides an overview of the disarmament process as well as the threat of terrorism that has been linked to biological weapons.

The reader is left grappling with the issue of the advancements in biological sciences and its application for development as also security. In conclusion, it is hinted that the barriers to obtaining necessary materials and knowledge skills for development of biological and chemical weapons are fast diminishing, thereby, increasing the prospects of bioterrorism. However, the book does not delve into the issues of how to address this problem. At the outset, the readers are reminded of the paucity of research and archival material available on the insidious biological weapons field.

Overall, *Deadly Cultures* fills a critical gap that exists in the literature on biological weapons, by providing a thorough account of the offensive programmes by drawing basically from primary sources.

CBW *Magazine*

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