

The Emerging Biological Weapons Threat and Proliferation

Dr. Sudha Raman

The author is Research Coordinator at USI, New Delhi.

Of the triad of weapons of mass destruction, nuclear weapons that have been the focus of attention followed by chemical weapons. But it must be remembered that there is an altered security environment which compels us to consider options to stem and resolve the grave risks posed by bio-terrorism and outbreak of infectious diseases. Hence the imperative to develop a bio-defence measure at the earliest and for this international cooperation is a must. This is an area of neglect and needs more attention. Biological weapons attack entails a pandemic and the health infrastructure and personnel could get overwhelmed by the demands on their services.

Of the triad of weapons of mass destruction, nuclear weapons that have been the focus of attention followed by chemical weapons. But it must be remembered that there is an altered security environment which compels us to consider options to stem and resolve the grave risks posed by bio-terrorism and outbreak of infectious diseases. The attempts by the Taliban and Al-Qaeda to expand modes of terrorism through the medium of use of biological weapons require awareness of the closeness of the threat. The terrorists have to succeed only once, it has been rightly said, while the defender has to be persistently prepared for such scenarios.

According to the parameters laid down by the Center for Disease Control and Prevention, lethality, toxicity, morbidity and mortality levels define bio-terror attack agents.¹ Bacteria, virus and toxins occur naturally in the environment too. Environmental contamination and infectivity of food and water or for that matter agricultural produce are matters of serious concern.² A bio-terror attack against an agricultural facility is a psychological and ecological disaster.³ In case of such an occurrence in a country like India, it could spell a massive disaster without spilling war blood. The irony lies in the fact that these agents could be carried by winds, bugs and birds which do not respect national borders. It thus becomes nearly impossible to detect the biological agent (especially if it is a toxin) or to determine that the victim has been deliberately infected (especially if it is a pathogen).

The suspension of pathogens or toxins in a wet or dry formulation and dispersal over the target as aerosolized particles is the worst and the likeliest mode that could be used. It could also be a multi-pronged option usage at any given time. There could also be the usage of human "biological bombs" or dropping of parasites. Formulating pathogens and toxins for airborne dispersal, operating dispersal mechanism and making certain that proper meteorological conditions exist for aerosol dispersal is technically challenging but not unattainable.

Then there are the added problems of diversion of resources from other valuable medical research towards unintentional releases of agents from scientific laboratories, unexpected natural or man made accidents – all requiring correct and adequate counter measures. Bio issues ought to be high on national and international agenda. Especially fighting infectious diseases should get additional attention and funding. Detection of simultaneous diseases is important. Early detection is the key to mitigating bio-terrorist attack and it is important to deploy effective response mechanism including medical countermeasures. It is also important to determine the place where it was disseminated to disinfect that area. The resilience of the society has to be increased regarding such attacks. This implies *cooperation among nations* in certain fields. No single nation can have enough wherewithals to fight such an attack – if massive – on its own.

Military Utility

There is a widespread international acquiescence that biological weapons lack military utility. Yet, at the operational or theatre level of warfare, it may be to the contrary. This requires attention from concerned nations in the event of use by anti-state elements in their war against the state. Aptly termed as *operational paralysis*⁴, biological warfare agents provide the attacker the opening to seize the objective without provoking retaliation from a nuclear-armed state. Biological weapons could be used just before an assault commences. A biological weapon attack takes on being strategic in nature when their reach goes beyond the battlefield. The ability of biological warfare to be dispersed over large areas and for agents to cause epidemics makes them well suited for strategic attacks. Deployment of biological weapons against strategic objectives could serve as a potent force multiplier for a conventional military operation.⁵

The Motives and the Problems

Bio-terrorism is one of the lethal ways to highlight ‘cause’, to send a political message

and also gain international attention and create *mass reaction*. Dilemma is worse where the concern is regarding a state suspected of having a chemical-biological programme in the zone of conflict. There is no assurance that there may never be instances when a nation may have an understanding with certain groups to attack adversaries using these agents.

A major drawback in accurate assessment of a threat is the very character of attack – it is generally unspecified. A major challenge of course is an indistinctive attack which could trigger a war between nations, despite each being innocent of an intentional attack. While considering the threat one has to be clear about the actors involved, the agent in use, the target and the method of attack.⁶ This necessitates monitoring of *capabilities* as much as *intentions*, which any way is tricky to discern. Lesson learnt – it is not the capabilities that are difficult to monitor, it is the intentions that are near impossible to detect.⁷

The challenge thus lies in detection and interruption of the insidious spread. How can these agents be detected before they make contact with a person and how can it be diagnosed after it infects a person? How does one increase the resilience of a society against bio-terror events?

Then there is the challenge of tracing covert production which goes hand in hand with enhanced access to materials and knowledge. One is bound to witness a steady increase in the number of persons with expertise in microbiology and biosciences. Some among these will get pulled by reasons of greed, ideology or fear to apply their knowledge for criminal or terrorist purposes.

There are technical and political problems in that the same industry can manufacture biological weapons and pharmaceutical or agro-industrial products the latter being for civilian purposes. Not only can biological agents be produced within weeks, it does not require storage either. Governments may be chary of intrusive verifications which in turn make the distinction between the permitted and the prohibited impossible till on-site inspections

are held and samples drawn. Also, any evidence related of clandestine manufacture of biological weapons and toxins can be destroyed.⁸

The “globalisation of biotechnology” is driven by national decisions, as also by biotechnology firms’ technical cooperation agreements to further their research. Matters are made worse by the availability of this knowledge in open sources. To add to the woes, new technologies are emerging like the genetic manipulation of biological agents and toxins that complicates control of induced diseases. An illustration is development of vaccine for potential bio-terrorist agents.⁹

The international community is not yet well prepared to combat a biological warfare or a combined biological warfare and conventional warfare threat. In spite of Biological and Toxin Weapons Convention (BTWC) of 1975, not to forget the Geneva Protocol of 1925 and the Australia Group, numerous states persist in their research and development of biological weapons. To deal with the yet unseen but looming threat it was hoped that an Organisation for the Prohibition of Biological Weapons (OPBW) would provide a solution instead of which it became a non starter.¹⁰ The BTWC still lacks the wherewithal to detect the development of biological weapons and adopt a hands-on approach to destroy stockpiles or combat the disease whether intentionally or inadvertently spread. A six-year negotiation for a compliance protocol to the Biological Weapons Convention came to naught when the US administration declared the BWC to be “inherently unverifiable.”¹¹

There is indeed a mismatch between threat assessments and efforts at preparedness. A suggestion made is “planning for a variety of more likely middle- to low-casualty incidents, while simultaneously being prepared for low-probability, high consequence incidents”.¹² Also important would be the ways to identify the likely sources of attack so that the threat could be eliminated. Credible intelligence and, more so, an effective, viable and responsive intelligence system will be an arduous task to attain.

India and Biological Weapons Convention

Osama has identified India and Israel as the other two enemies apart from the US.¹³ And terrorist are bound to search for their options in biological weapons at a greater level and at a faster pace. India needs to look at the concerns regarding biological warfare from the perspective of placing this threat in the context of public health measures needed to combat this danger.

India had played an active role in efforts to strengthen the Convention and had played a central role in facilitating progress towards consensus on key elements with a view to recommending a programme of work for the future.¹⁴

India was amongst the earliest entrants to the BTWC (January 15, 1973) and ratified its entry on July 15, 1974. India moved a resolution at the 57th UN General Assembly entitled Measures to Prevent Terrorists from Acquiring WMD, which sought collective action by the international community to address the threat of use of biological weapons by non state actors.¹⁵ The Group of Ministers set up by the Indian Government to review national security after Kargil (May to July 1999) maintained that nuclear, biological and chemical weapons terrorism was no more a far fetched horror but a contingency that could happen tomorrow. IT and communications have made terrorism with WMD easier.¹⁶

Two aspects to be noted is that while acceding to the Geneva protocol the British empire had retained the right to use biological and chemical weapons against countries that were not parties to the Convention. This reservation was not withdrawn by India on gaining independence. Interestingly, Article I of the BWC does *not* prohibit the *use* of BW.¹⁷

The negotiating states differed in their opinions on the preciseness of definition required for the terms ‘*bio weapons*’ and ‘*hostile purposes*’. India opined that Article I should be interpreted to take into account *any further developments in science and technology*. India agreed with Iran’s proposal that the word ‘*use*’

should be inserted in Article I. Differences also arose in the organisational structure envisaged and India suggested that all BTWC members be included with a smaller group of representatives being selected to guide its actions and take urgent decisions. The most contentious issue was regarding the on-site inspections. India favored the latter. India was skeptical about the extra need for non-challenge or random visits to check declarations and to familiarize inspectors with sensitive facilities. Regarding the controls on technology transfer, India favored multilateral monitoring of export controls functioning within the ambit of a multilateral or universally accepted treaty or convention. India preferred use of declarations to monitor export of dual purpose materials and their regulation through multilateral guidelines.¹⁸ India opposed the subordination of Article X (cooperation and peaceful development through bio sciences) to Article III (commits states parties not to assist, encourage, induce any country or organisation engaging in prohibited activities).

India stated that while it was worth engaging in national implementation measures they cannot substitute for meaningful multilateral efforts to strengthen the convention.¹⁹ India also needed to build up disease surveillance and the required response. It needs to enhance defence against normal epidemics and those that are intentional.²⁰

India it needs to be noted has a positive record in protecting sensitive transferred technology from getting lost or surreptitiously transferred is impeccable. India could support further tightening of export controls, stockpiling of vaccines and antibiotics in storage centers and undertaking international research programmes to develop new and cheaper drug regimes against common diseases and those through bio-warfare.

It must also be noted that India has already stated that in case of a major biological or chemical attack, India will retain the option of retaliating with nuclear weapons.²¹

What is required is the willing cooperation of the international community to destroy the terrorists by destroying their organisation. This

entails collaboration on inter-state, and international level in the areas of “*prevention, crisis management and recovery*”. This is particularly necessary for disease surveillance be they intentional releases of pathogens and toxins or natural outbreaks. A public health set up to detect and respond to a broad range of contingencies is required. As nearly always, civil sector organisations and NGOs will have a roles to play. The Chambers of Commerce and Industry especially the Confederation of Indian Industries has shown great interest in biological weapons due to the rapidly increasing biotech and pharmaceuticals industries with agro-industries poised for an exceptional growth.

Assessment and Options

The global society will have to cope with as much of biological future as with nuclear and chemical. The threat and its impact can be assessed by realizing *who* (player) constitutes the threat; *what* (agent) is the threat; *where* (target) is the threat; and *how* (mode of attack) is the attack to occur. *It is worth repeating that the terrorist needs to only succeed once to prove his point.*

SARS virus leaked from Labs in Taiwan, Singapore and Beijing. Most of the germ attacks were conducted by professional researchers who had gained or already had access to human pathogens.²²

The complex nature of damage that a threat from biological weapons entails and the magnitude of fatalities demand a comprehensive management planning. Networking, as well as integration in the medical and administrative set-up must be worked out. To understand, plan and implement such a management set up is no mean task.

It is not an easy task to bring together international and domestic support for a harmonized approach to countering bio terrorism threat unless accurate intelligence is available. Hence, as stated earlier, an effective, workable and quick-to-respond intelligence system, to intimate an impending attack, the source(s) of the attack and the main area of concentration, is needed. On their part,

scientists specialising in study of dangerous pathogens and diagnostics could monitor the latest developments in the scientific field.

The variance that exists between threat assessments and preparedness efforts could be pointed to the failure of threat assessment methodologies to take into account factors that comprise the threat.²³ The bio-terrorist threat requires comprehensive planning, preparedness and response capacity. This suggests a role and assets integration of the state and central governments. People in general also have to be active in early warning, prevention and crisis management. Both preventive and pre-emptive strategies are required to neutralize a threat.

India will need to show greater activism in rescuing BTWC from the quagmire into which it has fallen and aim at a workable verification regime. Like-minded countries need to detail steps that could be pursued to verify the compliance of the BTWC.

It is also important to emphasize the need to determine that certain outbreaks are not the result of terrorism. India's public health and medical authorities have to be prepared enough to detect or respond to a bio attack. Awareness of the seriousness of the issue, let alone stock of vaccines and antibiotics is inadequate. It is necessary to be proactive and take measures as public awareness, stockpiling vaccines and drugs, logistics preparation in case of an exigency, and bio-defense research and preparedness. *The fight is not against the bio-terrorist but bio-terrorism.* Hence it is better choice to prevent a bio-terrorist attack than trying to face an attack. Preparedness against their weapons and means of attack would act as a deterrent. The government must be in a position to tell their citizens about the measures taken for their safety and in the process instill confidence in them. This is a vital psychological factor.

The threat of escalation to WMD terrorism remains ineffectually understood. This is to be feared far more than any explosives especially so when detection and interdiction of those

intending to use biological weapons is exceptionally easier said than done.

Hence the imperative to develop a bio-defence measure at the earliest and for this international cooperation is a must. This is an area of neglect and needs more attention.

Biological weapons attack entails a pandemic and the health infrastructure and personnel could get overwhelmed by the demands on their services. Experience in dealing with large scale disasters would be important here. Large stock of vaccines and medicine is important. All this requires long term planning and implementation over time. This also necessitates a policy to ensure a turnover of time-expiry vaccines, drugs and medicines.

Ultimately it will be a test of international cooperation and unified coordination between civic and state authorities at national level. The role of the armed forces needs to be better defined as they are highly trained and disciplined force that can bring orderliness in a disaster situation. The local populace and civic governance may perhaps not be able to organise as the armed forces do.

Endnotes:

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- 16 Recommendations of the Group of Ministers, *Reforming the National Security System*, February 2001, p.114.
- 17 Statement of Arundhati Ghose at a seminar on ‘Biological Weapons Convention & Terrorism’ held on November 12, 2001, mentioned in P.R. Chari & Suba Chandran, ed., *Bio-Terrorism and Bio-Defence* (New Delhi: Manohar, 2005), p.21.
- 18 Statement made by Arundhati Ghose to the Fourth Review Conference.
- 19 Statement made by Rakesh Sood, Permanent Representative of India to the Conference on Disarmament at the 57th Session of the First Committee of the United Nations General Assembly on October 7, 2002.
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