

Dissuasion by Punishment or Denial to Counter Bioterrorism

**Lt Gen (Dr) Retd BS Malik,
PVSM, AVSM**

*The author is President,
Control Arms Foundation of
India.*

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 defensive 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’.

References:

1. Christopher F Chyba and Alex L Greninger, “Biotechnology and Bio terrorism: An Unprecedented World”, *Survival*, 46 (2), Summer 2004.
2. Rear Admiral Raja Menon, “The Effectiveness of Biological Agents”, *Weapons of Mass Destruction: Options for India*, New Delhi: Sage Publications, 2004.
3. PTI report from New York, “US has spent \$ 44 b in Germ Warfare Research”, *The Times of India*, 20 June 2007.
4. *The Daily Times*, Lahore, 17 January 2004. Also see Notes 5 and 6 in Christopher F Chyba and Alex L Greninger, “Biotechnology and Bio terrorism: An Unprecedented World”.
5. Lt Gen Dr BS Malik, “The Limits of Military Force”, *India International Centre Quarterly*, Summer 1999.
6. *The Humanist*, vol. 67, July- August 2007
7. *The New York Times*, 26 August 2003.
8. *The New York Times*, 21 February 2003.
9. <http://dir.salon.com/story/news/news/col/scheer/2002/03/13/nukes/index/.html>