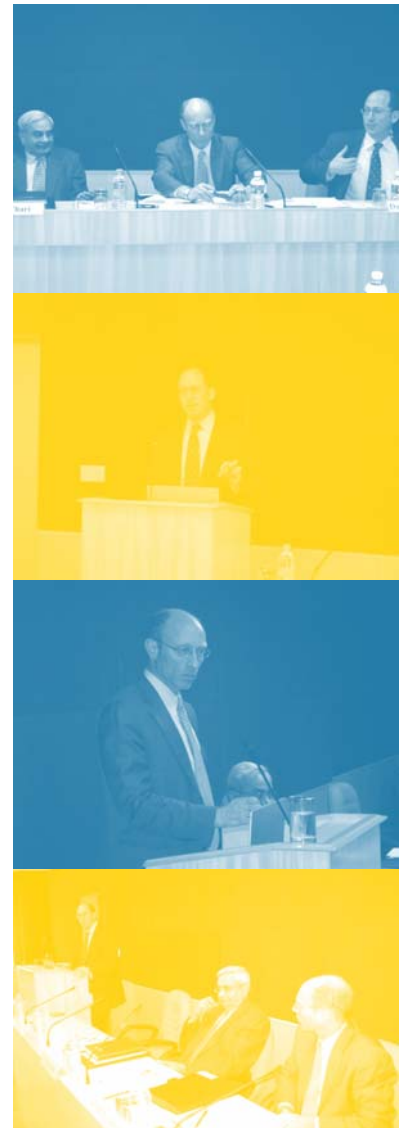


Institute of Peace and Conflict Studies (IPCS)  
Center for Strategic and International Studies (CSIS)

# Governance for Biological Threat Reduction

Conference Report

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# Governance of Biological Threat Reduction

## Conference Report

The Institute of Peace and Conflict Studies (IPCS) and the Center for Strategic and International Studies (CSIS) organized a workshop in New Delhi on 8 January 2008. The main presentations were made by Gerald Epstein and David Heyman from the CSIS, which was followed by a discussion.

There are many issues overlapping security and science, but among the most critical is the issue of bio-security. The threats emerge from those factors that are naturally occurring and those that are accidental or deliberate. This requires more players to be involved in managing the risks and threats from biological weapons.

On January 8, IPCS and the Washington DC-based Center for Strategic and International Studies addressed this topic in a workshop in New Delhi on “Governance for Biological Threat Reduction: A Comprehensive, International, Interdisciplinary Approach.” Gerald Epstein and David Heyman from CSIS presented an approach to dealing with biological risks of both manmade and natural origin, and a wide-ranging discussion ensued among workshop participants from a diverse range of disciplines and professional communities. The summary below reflects the major points raised during the workshop. Questions and comments presented here were those of individual workshop participants; no attempt was made to generate or report on any consensus conclusions among workshop participants.

The CSIS project is developing an interactive internet-based portal that will provide a forum in which to continue, broaden, and deepen such discussions, with the ultimate objective of improving the ability of members of relevant professional communities all over the world to develop and improve governance options that are appropriate to the rapidly evolving, distributed, diverse and interconnected set of issues associated with biological risks. The URL for this portal is not yet operational but will be provided at [www.csis.org/hs/btr](http://www.csis.org/hs/btr) as soon as the site is launched, IPCS will also provide a link to it.

## MAJOR CHALLENGES

The biological threat ranges from chronic and infectious diseases, to accidents and unanticipated outcomes from biological research and biotechnology, to bio-terrorism. The challenge from infectious disease includes chronic diseases (which are a major health problem in the world), infectious disease outbreaks (which occur regularly), new and re-emerging diseases, and concerns about deliberate use.



PR Chari, Gerald Epstein, & David Heyman

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The biotechnology challenge is even more significant due to an increasing ability to understand and manipulate biological systems. These tools are becoming more easily available and more powerful with their widespread diffusion around the globe, increased market penetration, new applications, growing infrastructure, and expanding human resources. Asia's biotechnology growth rates in 2005 exceeded those anywhere else in the world. There is an explosion of this technology. It poses a challenge to where this technology is headed. For example, the ability to undertake DNA synthesis to the point of making a virus -- and eventually a bacterium -- is a big leap forward that can have serious consequences. Though State actors are important, they are far from being dominant. "Dual-use" technology poses an additional challenge, since essentially all agents, materials, equipment, and expertise needed for weapon purposes have some legitimate use for research or commercial purposes.

State programs have long ago demonstrated the lethal potential of biological weapons. Terrorist interest in bioweapons is also established. However, a new generation of terrorists may be even more interested in bioweapons. Although there can be no proof of this assertion, its plausibility is indicated by the 9/11 attacks, which demonstrated terrorist interest in destruction on a massive scale. The 2001 anthrax attacks raised great concern in the US. The al Qaeda is known to have explored the development of bio weapons, but it is not clear whether or not they possess the capability at the moment to pose a serious threat.

With respect to biological threats, we must appreciate that the fates of all nations are intertwined. Groups based in one State can acquire the wherewithal in another State for use in third States. Thus, disease can spread at the speed of travel, and the consequences of a biological attack can extend far beyond the areas that are actually affected by disease. And, states failing to take bio security measures might be held accountable for any attacks that occur, which could be attributed to their inaction.

Traditional security measures are not well suited to threats that are inherently international, rapidly evolving, scientifically and technologically intensive, networked and decentralised with a highly diverse set of actors. We do not have the systems that could address these challenges. Whereas preventing, mitigating, countering, or responding to biological weapons used to be the province solely of military officials and diplomats, at a time when nation-state weapon programs were the primary source of concern, the rise of non-state threats has put public health authorities, law enforcement officials, doctors, industrialists, scientific researchers, and members of a diverse set of additional professional communities on the front lines of efforts to prevent or respond to a biological attack. Although all these constituencies have an essential role, none of them have dealing with deliberate biological threats as their major concern.

Any new technology has positive and negative implications -- and this is particularly the case with a technology that is as "dual-use" as biotechnology. While addressing security issues, we must achieve a balance to ensure that the research we depend on to raise living standards, protect public health, improve the quality of life, and defend against deliberate threats is not hampered.

### Questions/Comments

The threat from biological weapons is tangible, although the historical record does not provide much precedent. It is important to study the psycho-pathology of terrorism. The key challenge is





the need to address catastrophic terrorism.

- The draft Indian nuclear doctrine caters for the threat from biological weapons and its use by non-state actors. Whether it is practicable is another matter.
- Why is there a problem in the US with regard to negotiating a verification protocol? Although the current Bush administration entered office with a distaste for many existing international treaty regimes, U.S. policy opposing a monitoring and compliance protocol for the BWC was not limited solely to officials in that administration. Rather, the U.S. position would more appropriately be seen as reflecting the view that the technologies of concern with respect to biological weapons are so inherently dual-use — and therefore so ambiguous — that the kind of declarations and inspections envisioned in the draft Protocol would not have been of much value in indicating either compliance or violation. A future administration might be more amenable to negotiating international conventions in general, but it will not likely look at a Protocol to the BWC any differently from what this administration has done.
- Regarding multilateral approach to biological weapons, and considering the role of non-state actors, the primary challenge is not top-down, rather it is bottom-up. International treaties and agreements still have a role to play, but they are not sufficient.
- The threat from biological weapons is not new, but has been existing since the beginning of history — and indeed, history provides examples of the hostile use of disease as a means of inflicting harm. If the threat perception about them has increased, it needs to be analysed. The threat of infectious disease and its spread is increasing, which also needs to be addressed. The ability of terrorists to attack livestock and agriculture using bio agents to economically cripple a country also requires attention. While damage to human beings is being deliberated upon, the threat to livestock and agriculture cannot be lightly dismissed.
- Biotechnology is not only a potential source of this problem; it is also be part of the solution to help in managing this problem.
- There is need for integrated defence strategy, for example, to defend against naturally occurring threats as well as deliberate ones (i.e., to find a vaccine against bird flu)
- What happens if there is a sneak bio-attack whose origin is unknown? Can there be any deterrence against such attacks? Should there be a discussion on responsible states and irresponsible states in regard to this issue?
- In India most diseases are endemic. India has been facing some of these diseases for long. In South India, for example, anthrax has always been prevalent.
- The weaponization process is very difficult for biological weapons, and some claim that the state of the art technology for bio-weapons will only be available with states. Others, however, note that states — and in particular, the national security agencies of states — do not in general have the level of expertise in biological science and biotechnology that can be found in academia, industry, or civilian parts of government. Nevertheless, given how hard it would be to deny states or other sophisticated actors the capability to create biological weapons, the main counter to a bio attack would be public health — an area that needs to be augmented.
- No country can successfully address the threat from biological weapons by itself.



**The draft Indian nuclear doctrine caters for the threat from biological weapons and its use by non-state actors.**



International cooperation is required and the BTWC needs to be strengthened. Disease surveillance is important to distinguish between natural, accidental and intentional outbreaks. Coordinated efforts between government agencies are paramount. NGOs, academia and private companies have a positive role to play by pooling together all available information.

- For countering bio-terrorism, counter measures are required right from when the person has the intention to use bio weapons to the actual attack and handling its after effects. Public health is only one aspect of the potential counter measures. Other institutions and professional communities have a role in countering a possible attack before public health comes into the picture.
- Any threat perception has to take into account various elements. These are the Actors; Motives; Targets; and Weapons. An analysis of the threat perception would help to identify the vulnerable areas that require attention.

## ROADBLOCKS TO SUCCESS

The problem of biological disasters involves many communities which include the public health and medical communities; law enforcement and intelligence agencies; scientific establishments; national security establishments; and disaster management establishments. There is no one community that can be made exclusively responsible. The deliberate use of biology to harm is a problem that resembles the more traditional missions of these professional communities, but cannot be equated to any one problem. The responsibility to prevent, mitigate, interdict, or counter such use of biology for harm devolves on many communities, none of which see it as their primary mission. Each of them must examine whether their traditional tools and approaches need to be modified. Each community will be anxious that new responsibilities for dealing with deliberate use do not impair existing responsibilities and missions. Each would have a different use for resources that are not spent on this problem. Each will have to work with communities with which it may have little common experience.

The inherently dual-use and widely available nature of biotechnology means that there are no “chokepoints” specific to weapons development that provide effective opportunities to counter bioterrorism and biological weapons. Unlike nuclear technology, which utilizes specialized materials (e.g., highly enriched uranium and plutonium) that do not exist in nature, have limited commercial or scientific applications, and can be tightly regulated, biological research and development is largely free of constraints. Hence, the need for an integrated approach to address the problem right from when the thought of an attack until the actual attack occurs.

### Biological Threat Reduction (BTR) Missions and Goals

The objective of the CSIS Biological Threat Reduction Forum is to promote actions and policies to lessen the likelihood and reduce the consequences in illness, death, and societal and economic disruption of the deliberate and high consequence of biology for weapons...with the understanding that the deliberate misuse of the life sciences is only part of the spectrum of challenges confronting society regarding biology and security.

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The above framework provides a comprehensive approach to preventing, mitigating, and responding to biological weapons and bioterrorism which can be described with “four D’s,” comprising four layers for planning countermeasures

- Dissuade malicious actors from pursuing biological weapons
- Deny materials, equipment and expertise to the extent possible
- Detect covert weapons programs not only those of state actors, but also non state actors
- Defend against biological attack with effective consequence management and attribution, such that it deters any possible users.

The BTR Forum formed an international consortium that was multi-sectoral to address bio threat reduction, an approach that was also articulated by then UN Secretary General, Kofi Annan. Annan called for new thinking in proposing a forum to bring together the various stakeholders, which includes government, industry, science, public health, national security etc.

What kind of forum? The diversity of actors and the breadth of policies and the pervasiveness of the threat requires a bottom-up rather than a top-down approach.

### Comments/Questions

- What are the mechanisms available for detection and surveillance of infectious outbreaks? An integrated surveillance system is in place in India which can identify and differentiate natural and intentional outbreaks of infectious outbreak.
- What kind of interaction is feasible and desirable in a BTR forum? A web based platform will not be enough. An interactive group within smaller groups within professional communities is likely to bring about useful suggestions for developing a mechanism.
- Industry does play a positive role. They are worried about chemical terrorism and are concerned about bio-safety. If industry is properly engaged, their utility could be tapped. Indian industries are allergic to government oversight and monitoring, and sensitive to the issue of confidentiality. But non-governmental organizations can play a coordinating role, although their thinking is geared towards natural disasters and accidents, and not towards the realm of weapons.

## GOVERNANCE FOR BIOLOGICAL THREAT REDUCTION

For dealing with the threat of biological weapons, linkages must be developed between the relevant professional communities, since each such community could play an important role towards addressing biological threats. Actions and measures taken by one community could impact on others. Therefore, it is important that these concerned communities should know each other, interact with each other, and work together to deal with the bio-threat. In addition to traditional communities like investigation agencies, health community etc, such interactions should also engage communities like the Pharmaceuticals industry, Police Chiefs, Universities, and Public Health. The main question is how to facilitate this communication? What could be the

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Ajey Lele



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mechanisms to develop these linkages between the different communities?

A web-based forum could be an important way to establish communications and linkages between different communities. It could help professional community members to

- Work with colleagues within their own professional communities.
- Engage members of other communities.
- Generate ideas and improve thinking.
- Identify and evaluate what is needed and what is happening to reduce the threat.

Each community needs to do the following:

- Examine the present system on the ground. Each community should analyze the present context of bioterrorism, what are the deficiencies in meeting this threat and what needs to be done in future. There has been a lack of international cooperation in this area of Biological threats. The problem is that guidelines laid down by one community may not be applicable to the other community. Therefore, lines must be laid down between common and differentiated policies. There should be preventive actions to deal with future threats.
- It is important to understand which countries or non-state entities are sources of concern. For this purpose some questions need to be answered by everyone involved in this forum. These questions would be prepared by the intelligence community, and will help us to know the thinking that underlies biological terrorism, its financial backup, expertise of particular countries to handle bio-threats and so on. There is also a need to prepare a counterstrategy.

The importance of such a forum is that it is 24 hours, 7 days working arrangement. People can post their comments and suggestions. There could be a discussion on community roles, to provide an interaction between many communities. The forum would be helpful to establish transparency between various communities.

An important supplement to the web-based forum and a series of interdisciplinary workshops would be a periodic World Congress for Biological Threat Reduction, which could convene every 18 months or so to motivate progress, provide an opportunity for self assessment and assessments of threats and suggestions made; and also provide linkages to support ongoing interaction.



AK Doval

The structure and decision making of this forum, and its value in identifying and motivating actions to reduce biological threats, resemble the way that a market economy identifies and motivates the production of necessary goods and services. There is no single decision maker in the market. Yet the aggregate effect of each individual decision has the effect of identifying market needs and filling them. Similarly, there would be no single decision maker in this forum, but the hope would be that the aggregate effect of each participants' individual actions would be to reduce biological threats. Each member, community or state would evaluate each other's progress. Another important thing is that we should have system of identifying people in this web based forum, so that we know who has posted the comments and suggestions. The aim is to reach people. National Health Ministers, NGOs or governments could also engage in these interactions. All governments should recognize that this forum would serve their interests and engage in discussions on all these issues.



Many recommendations have been made for policies and actions that would reduce biological threats, but many of these have not been implemented. The reasons are either that the ideas were not good; insufficient information was provided; dialogue with necessary partners was missing; agreement could not be reached on the right approach and no means were available to arrive at such agreement, or resources were limited

Another important limitation of these earlier efforts was no mention of industries. There have been some efforts to engage the biotechnology and pharmaceutical industries, but it is hard to get their attention. They do not provide information and do not want to inform what they are doing. As a result, industries are not coming forward to take part in discussions, and they do not want to follow governmental rules unless their interests are affected. There is a need to create awareness in them about biological threats.



Gurmeet Kanwal

### Comments/Questions

- There is need to provide information to people. For this, a helpline should be set up. The issue of biological threats should be part of the educational curriculum of students.
- The problem is how to attract global attention to this forum. This could be done by initiating a dialogue at district and national levels rather than at the global level.
- There is lack of emergency diagnosis services to take care of the after-effects of biological attacks at the national level. At the international level, there are many protocols to deal with the threat, but no common program to deal with it.
- There should be concerted technology development to deal with biological threats like the establishment of biological laboratories.
- Terrorists can be fallible. Some measures should be identified to force them to revise their plans about biological threats.
- There is a need to establish a verification regime at the international level, which is not unrealistic or very expensive.
- We should have programs and collaboration with small and medium size enterprises to deal with biological threat.

### CONCLUDING REMARKS

The biological weapons threat is imminent and adequate measures for addressing this issue are required. There is a need to consult scientists in this regard, as there is to engage the members of other relevant professional communities. An interactive forum such as the one discussed at this workshop would help to analyze – and counter -- the reasons underlying biological terrorism. We must devise measures to deter terrorists from using biological weapons. All the relevant communities and nations should understand that there is a threat, and there is a need for a common platform to address this issue.

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