

Threats Emanating From Weapons of Mass Destruction

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Summary

The article studies the nature of threats emerging from the weapons of mass destruction and suggests policies for ensuring security against these threats. It argues for widening the attention paid to these weapons to give more focus to chemical and biological weapons.

Introduction

The safety and security of the Weapons of Mass Destruction (WMD), commonly, characterized as nuclear, chemical and biological weapons in the current international security environment has become a dominant area of discussion and debate among the members of strategic and academic community. Such ongoing debates have also highlighted the challenges in the context of the containment of proliferation of WMD. The discourse has mostly centered on the probable threats emanating from the existing stockpiles of WMDs' either by accident or by design. The fear has grown out of proportion among the members of the international community because of the rise of non-state actors. The non-state actors have thrown open new challenges to the various state institutions in overall context of national security dimension of various nation states. It has been estimated that there will always be an attempt by the non-state actors to catch hold of any of the components of WMD and create panic in the society and also create imbalance in the system. How to make the existing non-proliferation regimes robust has been the challenge before the international community.

Unfortunately, most of the discussions about WMDs focus mainly on the nuclear weapons and nuclear fissile materials. It must be reiterated here that while nuclear weapons were invented just 65 years ago, biological weapons have been used for centuries and chemical weapons since World War I. Biological and chemical weapons are as deadly as nuclear weapons except that nuclear weapons have an additional capability of destroying physical infrastructures and locations. Biological and chemical weapons silently would take the lives and it would be really difficult to ascertain the reasons because these are not quickly lethal in comparison to the nuclear weapons.

The United States and Russia together account almost the entire worldwide stockpile of biological and chemical weapons. It would be roughly about 61,000 metric tons.² It should be highlighted here that the available stockpile is

in fact a lethal dose for 65 billion people which is roughly 10 times more than the current global population of 6.5 billion people. This statistics is really scary when one talks about the complete annihilation of human mankind.

Biological Weapons and Threat Perception

It is well known that biological weapons employ viruses, bacteria and other germs to produce diseases, which largely disable human lives and kill people slowly. Biological weapons by and large help in creating imbalance in the ecosystem also because of their impact on both plants and animals. The most likely means of delivering biological agents is through discharging into the atmosphere and it relies on turbulent diffusion and wind currents to dilute and spread the agent over the area being attacked. One may recollect the Bubonic Plague which had swept from Asia to Europe during 14th Century caused roughly 40 millions Asians deaths. The same century had seen many deaths in Europe because of the spread of Plague which continued for generations until the 17th Century. It was used as a weapon in the 1930s and 1940s by the Japanese. They dropped ceramic bombs loaded with Plague infested fleas over several cities in China. The recent scare created by Anthrax in the United States just immediately after September the 11th event in 2001 really signaled to the rest of the world that the non-state actors may like to use bio-agents to fulfill their objectives.

Undoubtedly, Plague is of great concern as a terrorist weapon because it produces disease disproportionately greater than the original amount of agent used. It is found in nature and is available around the world from supply houses in countries without strong security regulations.³ One requires to bring stringent security mechanism at the supply houses so that the bio-agent could not be made easily available.

It should be noted here that the British used smallpox as a weapon during French and Indian War in the mid-eighteenth Century. Under the pretext of friendship, the British had

given blankets from their own smallpox victims to Indians who were sympathetic to the French. The Indians lacked immunity from smallpox and hence suffered a devastating outbreak, which ultimately helped the British to defeat the French at Fort Ticonderoga. The world certainly in the current scenario again has become highly vulnerable from a bio-terrorism perspective. If the historical record about the use of biological weapons at various times is investigated closely, there would be approximately 200 incidents involving toxic biological materials in the last 100 years. It must be emphasized here that the biological weapons are a family of weapons. There are organisms that can attack any part of the living world that mankind depends upon, ranging from Salmonella infections in humans, to foot-and-mouth disease in cows, and Bunt of Wheat in food crops.

There are living and non-living agents. Plague is a classic example of living agent. Bacteria and viruses are the other bio living agents. Botulinum toxin and ricin, on the other hand, are clearly non-living chemicals.⁴ There are also persistent and non-persistent agents. The classic Biological Weapon organism, anthrax, is persistent and hardy. Anthrax can survive in the environment for well over 100 years at the given right conditions. It can also be compared with Venezuelan equine encephalomyelitis, a virus that is non-persistent in the environment. Anthrax spores occur naturally around the world in soil and in certain animals and they can be further produced for biological warfare. The use of anthrax by a terrorist organization in due course has certainly high probability because it does not require much of the infrastructure.

The international community would certainly require taking a serious note of the threats emanating from the bio-agents in the form of the biological warfare. International cooperation is important for information exchange and extraditing bio-terrorists. The revival of the fresh debate on the existing 1975 Biological and Toxic Weapons Convention (BTWC) and its efficacy in the context of the emerging challenge would be of urgent necessity so that there would be an evolution of international consensus on making the existing arrangement robust and stringent. It is really unfortunate

that the BTWC is silent on the verification process. There seems to be a move to have an understanding among the signatories to the convention about the verification procedure and other additional mechanism which would guarantee that such weapon or material do not fall in the wrong hand.

India must develop capabilities in i-forensics for dealing with bioterrorism and biowarfare.⁵ It is the job of international security systems to detect laboratories used for the development of pathogens. Somehow, there seems to be a lack of stringent international mechanism. Under such circumstances, India should put all its efforts in developing a scientifically and legally acceptable system for rapid diagnosis and forensics of pathogenic agents.⁶ Such development would help deter the non-state actors to try and acquire such bio-agents. It is high time, the international community shall work together in making BTWC a robust convention so that the diversion of resources that are globally available in developing biological weapons must not take place.

Chemical Weapons and the Probable Threats

One of the other components of WMD has been the Chemical Weapons. Mustard Gas is one of the earliest chemicals to be weaponised. It was used by both Allies and central powers during World War I. Mustard Gas do not need to be inhaled to be effective. Even skin contact with 0.1 parts per million would produce the desired effective results. Hence, the threat emanating from Chemical Weapons from a terrorism point of view has thrown open many challenges to the international community.

Ricin is a bio-toxin, which is a poisonous chemical that is made from plants or animals. It is made from the waste left over from processing castor beans into castor oil. The various other Chemical Weapons include Sarin, which is a warfare agent and targets the nervous system and inhibits it from functioning properly. Germany pioneered the Sarin during the World War II. It is 26 times as deadly as cyanide gas. Sarin was also used by the terrorist group Aum

Shinrikyo in the Tokyo subway attack during March 1995.⁷

The lethal dose of VX nerve gas can be as little as 10 milligrams. VX is more toxic than Sarin and it is the most deadly of the nerve gases. The United States and Russia possess more than ten lethal doses of biochemical toxin for every human on earth. The challenge before the international community has been to contain the proliferation of chemical weapons. To address this challenge, the Chemical Weapons Convention (CWC) has entered into force and has 184 member countries. The CWC is a multilateral treaty that bans chemical weapons and requires their destruction within a specified period of time. The treaty is of unlimited duration and is far more comprehensive than any prior international agreement on chemical weapons. Two of the major non-signatories to the CWC, North Korea and Syria should be brought under the ambit so that the possibility of diversion of Chemical Weapons to the non-state actors does not exist.

Protection of Nuclear Weapons and Nuclear Materials and Future Threats

The grave danger and the threat to the mankind and the ecosystem in the current international security environment come from nuclear weapons and nuclear materials. The security and protection of nuclear weapons and fissile materials has always been of a great concern for the nuclear weapon states. The possibility of such weapons or materials falling into terrorist hands has grown in the recent years because Pakistan has emerged as the epicenter of terrorism. The close nexus between Taliban and Al-Qaeda in the last one decade have made the situations worst. The challenge before the nuclear weapon states has been to prevent the theft or illegal purchase of fissile material by the non-state actors. It must be stressed here that the nuclear terrorism must be controlled at the source.

There might have been repeated attempts by the Al Qaeda to acquire nuclear material. It is plausible that a sophisticated terrorist

group could build at least a crude nuclear explosive. The amounts needed to build a bomb are small. But, one would require a dedicated infrastructure. The greatest fear is that a worker at a nuclear facility could be bought by the Al Qaeda and help in providing with the small amount of fissile material.⁸ It is most likely that the plausible terrorist attack could come in the form of a “dirty bomb”.⁹ The threats emanating from the nuclear weapons and nuclear material would certainly be an economic and a humanitarian disaster. There seems to be some seriousness and recognition that nuclear terrorism is imminent and hence, there is a renewed debate on global nuclear disarmament. The complete elimination of nuclear weapons will not be the only answer unless and until one assures the protection and security of fissile materials. The dismantlement of nuclear warheads would release lots of fissile materials.

The international community has to work together with the genuine support from the nuclear weapon states in terms of guaranteeing a safer and peaceful world. There is certainly no doubt, biological weapons are of the greatest concern to the mankind in the contemporary world among all the components of weapons of mass destruction. The BTWC requires a stringent verification mechanism. With regard to Chemical Weapons, the stipulated goal enshrined in the CWC has not been achieved so far. The CWC prohibited the development, production and stockpiling of chemical weapons and the signatories were supposed to destroy their existing stockpiles by 2007. Unfortunately, it had not been able to keep the time limit and the movement towards achieving the target has not picked up. The current debate on nuclear weapon free world has to take a proper and serious shape and the commitment has to mostly come from the United States and Russia. The threat is real and unless and until adequate measures are taken on time, the possibility of getting hold of fissile materials in the wrong hands can never be ruled out.

Endnotes:

1. Richard Rhodes, “Living with the Bomb”, National Geographic (USA), August 2005, p. 98.

2. US Centres for Disease Control and Prevention, “The History of Bioterrorism”, <http://www.bt.cdc.gov/training/historyofbt/index.asp>, 28 January 2010.
3. According to the Journal of the American Medical Association, “Botulinum toxin is the most poisonous substance known. A single gram evenly dispersed and inhaled could kill more than 1 million people.
4. The convergence of information security and criminal justice is called i-forensics. Such forensic is totally different from ordinary forensics and India must start from scratch in this area.
5. Recent developments in molecular biology, including genomics and proteomics would make this a real possibility. The recent work on SARS (Severe Acute Respiratory Syndrome) has demonstrated the efficacy of a microarray system in the rapid diagnosis of the virus and its recognition as a novel virus within a very short time frame.
6. The attack killed 12 people and injured 6,000 others.
7. There have been multiple documented cases of real theft of kilogram quantities of real weapons-usable nuclear material. The International Atomic Energy Agency has a database that includes roughly 20 incidents involving seizure of stolen Highly Enriched Uranium (HEU) or plutonium that have been confirmed by the relevant states.
8. A dirty bomb generates its explosive force from conventional explosives like Tri Nitro Toluene (TNT) rather than by nuclear fission or fusion. It is far less powerful but it is packed in deadly radioactive material.