

Forum: The Disarmament and International Security Committee (DISEC)

Issue: Assessing the Threat of Biological Terrorism.

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Introduction:

On the 26th of March 1975, the Biological Weapons Convention (BWC), a treaty that outlawed the development, production, stockpile, acquisition or retention of biological weapons was implemented. 185 state parties signed the treaty, with the exceptions of Israel, Chad, Comoros, Djibouti, Eritrea, Kiribati, Micronesia, Namibia, South Sudan and Tuvalu.

Regardless of the nearly worldwide ban of bioweapons, they are still being produced and acquired by numerous terrorist groups in the past half-century. Causing many casualties among innocent civilians in countries such as the United States, Japan, Kenya, the United Kingdom, Russia, Pakistan, Israel, Columbia, and Tunisia alike.

Even Though the damages caused by bioterrorism are minor compared to those of much less technologically advanced attacks by terrorists such as the 911 attacks, bioterrorism still poses a major threat to the mostly unprepared world as seen in its handling of even less lethal diseases such as Covid-19. If larger-scale attacks involving bioweapons occur, then they have the potential to cause food shortages, environmental catastrophes, and economic loss according to the BWC. Moreover, with developments in synthetic biology and gene editing technology such as CRISPR, this threat could be closer to reality. It is vital and essential that the delegates of DISEC identify the possible threats of bioterrorism and create effective strategies to prevent and counter these issues; not to debate if bioterrorism is a problem we should solve.

Definition of Key Terms:

1. **Biological Terrorism/Bioterrorism:** The deliberate release of viruses, bacteria, and other germs used to cause illness or death in civilians, animals, or plants.
2. **Synthetic Biology:** A field of science involving the redesign of organisms to serve other purposes.
3. **Biodefense:** Actions to counter, reduce, or respond to biological incidents.
4. **CBRN:** An abbreviation that is used to describe the use of chemical, biological, radiological, and nuclear threats.
5. **Disseminate:** (verb) To spread something.
6. **Morbidity:** (noun) A diseased state or symptom; effects can vary in severity.
7. **Category A:** (adjective) Classification used to describe biological weapons that:
 - has a high mortality rate,
 - easily disseminates,
 - needs special actions e.g. anthrax.
8. **Category B:** (adjective) Classification used to describe biological weapons that:
 - is moderately easy to disseminate,
 - has moderate morbidity,
9. **Category C:** (adjective) Classification used to describe biological weapons that:
 - is easily produced
 - has the potential for high morbidity and mortality.

most definitions cited from sources linked below

Background Information

Past Instances

Between 1970 to 2019 there has been a recorded total of 33 terrorist attacks involving the use of biological agents. With 21 of these attacks in the United States, 3 in Kenya, 2 in the United Kingdom and Pakistan, and 1 event in Japan, Columbia, Israel, Russia and Tunisia according to NCBI

2001 Anthrax Attacks

This event was a biological attack involving the disease anthrax on the 18th of September 2001 across various cities in the United States. This bacteria was released to the public via mailing, one of the letters, addressed to Senator Daschle and Leahy read “You cannot stop us We have this anthrax You die now Are you afraid Death to America Death to Israel Allah is great”, pinpointing the perpetrator to be a Muslim extremist group. Years later on the 11th of April 2007, American scientist Bruce Irvin's suspected and was put under surveillance. On the 29th of July 2008, he committed suicide. Only on the 6th of August 2008, did DNA evidence prove Bruce Irvin to be the sole perpetrator of the attacks. In total 5 people were killed and 17 were injured.

1995 Tokyo Sarin Attack

This event was a biological attack involving the nerve agent sarin on the 20th of March 1995 in Tokyo Japan. This nerve agent was released into the Tokyo subway, injuring 5,800 people and killing 13 people. The perpetrator was the Japanese doomsday cult Aum Shinrinko. Some of the cult's members consisted of pressured students from Japan's most prestigious universities, who were promised a more meaningful life upon joining the cult.

The Soviet Union's Biological Warfare Program

During the early 1990s, there were concerns about the potential for the spread of expertise and materials related to biological weapons, given the dissolution of the Soviet Union. Although there is no concrete piece of evidence showcasing a bioterrorist attack originating from the former Soviet Union that occurred during this period, there were concerns about the security of biological weapons facilities and the potential for their usage. The Soviet Union had an extensive biological weapons program known as Biopreparat, which was active during the Cold War. With the dissolution of the Soviet Union, there were concerns about the fate of these programs and the possibility of expertise and materials falling into the wrong hands, ultimately for the worst. The All-Union Science Production Association Biopreparat was the Soviet agency created in April 1974, which spearheaded the largest and most sophisticated offensive biological warfare programme the world has ever seen.

1984 Wasco Rajneeshee County elections

In 1984, 751 people suffered food poisoning in The Dalles, Oregon, United States, due to the deliberate contamination of salad bars at ten local restaurants with Salmonella. A group of individuals

who strongly followed the ideology of the controversial Indian philosopher Rajneesh, aimed to cause harm and incapacitate a majority of the voting population for their candidates to gain power. The 1984 Wasco County BioTerror attack is known to be one of the deadliest bioterror attacks mankind has seen to this date. The Typhimurium was delivered to the voting population through the restaurant's glasses of water.

These severe consequences continue to pose as a reminder of the deadly effects of bioterror, and the capability of damage it holds. Although bioterrorism may not have the same gravity of effect in one's mind, delegates need to note that, if it is conducted in a thoroughly planned-out and detailed manner, it could lead to the death of thousands of innocent lives, just like traditional terrorism.

Current Situation

Global Preparedness

Member nations and international organizations continue to ensure that during the rise of an unfortunate biological terrorist attack, the global community knows the course of action required to restrict the effects of said attack.

International Cooperation and Collaboration

Organizations such as the Disarmament and International Security Committee (DISEC) and the International Criminal Police Organization (INTERPOL) work in collaboration with member states to share information and innovative biological incident analysis platforms for the law enforcement community. This serves as a key factor in the timely response to a severe circumstance. Furthermore, joint research studies facilitate the development of diagnostic tools, vaccines, and treatments.

Technological Innovation for the better

Investment in research and development of new advanced technologies contribute to the enhancement of security measures for biological terrorism. Advanced Diagnostics such as Rapid Testing Kits (RTKs) allow governments to identify pathogens in an environment quickly. Next-generation sequencing (NGS) facilitates the rapid sequencing of microbial genomes, helping in the precise identification and characterization of biological agents. Further advances in gene synthesis enable the creation of synthetic DNA sequences, which can be used for various applications, including the development of vaccines and therapeutic agents. Finally, CRISPR-Cas9 and other gene-editing technologies have applications in both biomedicine and biosecurity. They allow for precise manipulation

of genetic material and can be used in research to develop countermeasures against potential threats. Advances in technology continue to improve and strengthen the level of global preparedness in the event of a biological terrorism attack.

Logistical Planning

Nations maintain stockpiles of countermeasures, such as vaccines and other medications, to ensure a rapid and effective response in the unfortunate event of a bioterrorism incident. Additionally, planning for the distribution and administration of medical countermeasures involves coordination among various agencies to ensure a swift and well-coordinated response.

Technological Advances in Bioterrorism

Although these technological advancements allow for better global preparedness for member nations, they can also be used by opposing parties to more efficiently and effectively cause harm to a greater number of people. Leaving the door of danger open to the greatest bioterror crisis in the history of our world.

Increased potential for the Weaponization of pathogens

Advances in biotechnology and genetic engineering may result in the further creation of more targeted biological weapons. Genetic modifications to pathogens could enhance their impact, transmissibility, or resistance to existing treatments, making them more effective as bioweapons. Advanced genetic engineering provides the capability to provide precision and sophistication when crafting these weapons more so than ever, leading to possibilities and impacts never before seen. With the enhancement of these technologies, there could also be the customization of pathogens, which target certain groups based on their physical and immunological characteristics, which in the future will most definitely play a role in extremist racism. However, one of the most dire consequences which comes with the rise of technology in biology, may well be the creation of new biological entities using synthetic biology facilities. These may facilitate the creation of never before seen pathogens, which may cause grave amounts of devastating impact, to the human population at an extent nobody had ever thought possible. The development of said entities pose the challenge of quick intervention and identification as member nations and internationally recognised medical organizations will most certainly not be able to develop the cure for such complex and most likely untreatable diseases in a short period of time.

Advanced Genetic Engineering

Due to the rise in the number of possibilities for bioterrorism from a pathogen modification perspective, there is most definitely a greater chance of the weaponization of common day, and currently widely cured pathogens and diseases. The restriction of this technology is necessary to ensure that this ability is not given to those with malicious intents, especially extremist and radicalizing groups. Additionally, these advancements and hardships in limitation make the global healthcare society vulnerable and petrified, as they don't know what to expect due to the numerous amounts of possible genetic coding/engineering. This advancement can specifically be used to make existing pathogens more stealthy, infectious, deadly, and cure-proof (through complexity) to create countless obstacles in the path to finding a solution to said modified pathogen.

Cybercrime

Another key factor to take into consideration is the increasing role of hacktivists and cybercriminals, and the potential they have in making graver impacts in the bioterrorism industry. Firstly, as cybercriminals become increasingly better at weaving their way through complex remote security systems, the risk of confidential research documents in regards to bioterrorism, the leakage of ongoing research on pathogens cures, as well as in the future poses an area of ongoing concern. If malicious groups obtain information regarding certain pathogens, which is known only by specialist medical and healthcare organizations, they could use this vital information to create an even more dangerous pathogen and/or operation, ultimately leading to the lives of many more being affected and potentially even lost.

Major Parties Involved and Their Views

The United States of America

As the country with the most instances of biological terrorism in the world, including one of the rec, the United States is without a doubt a firm supporter in the fight against bioterrorism. The United States is a signatory to the BWC and has no solid evidence pointing to it confirming that it has a biological weapons program anymore. It continues to build greater and stronger measures on how to limit the further advancement and impacts of the issue at hand. The US plays a significant role in the international collaboration aspect of bioterrorism, as it continuously engages in international cooperation to address global biosecurity challenges. The Centers for Disease Control and Prevention (CDC) and other U.S. agencies are actively involved in global health security initiatives, including the former president (Donald Trump) engaging in the 2017 U.S. budget proposal affecting bioterrorism programs.

Although they have made efforts to mediate the effects of biowarfare, they themselves have been accused of using it as a weapon in previous years as well. Referring to the **United States Biological weapons program (1943-1970)**, which has been accused of the production of biological weapons that were used in the Korean war (1950-1953) and in Cuba, during the ‘Cold War.’ Although the program has officially closed, it is still uncertain if the United States is working on an arsenal of biological terror mechanisms, similar to many nations of the world. There is the high chance of domestic bioterror attacks as well, due to the rising tensions between ethnically different individuals as well as between, local law enforcements and the general public, with many violent eruptions taking place in the recent years.

People’s Republic Of China (PROC)

During the occurrence of the global pandemic caused by Covid-19, Chinese scientists have been accused by parties, regarding their intention in the production of the virus in the Wuhan lab. This is not certain however, as concrete evidence is not apparent in the situation. An American Assessment also concluded that China has an advanced bioweapons program. It also has an advanced chemical warfare program that includes development, production and weaponization capabilities. It is essential that measures are put in place to avoid the use of these suspected advanced biowarfare programs, as the potential consequences are beyond our imagination.

Middle-East

As the Middle East continues to be a region of immense tension, the possibility of bioterrorism continues to haunt dependent parties and stakeholders nearby. Countries like Israel and Iraq have been suspected to be working on a biological warfare program, with aims to use it against their culturally different oppositions. Although such allegations have been denied by said parties, it remains a threat to security in both the Middle East as well as, the global community, given the sheer amount of advanced technology, research and resources available in the region.

Democratic People’s Republic of Korea (DPRK)

Despite no specific evidence that North Korea intends to use its resources to commit bioterrorism, sources suggest that it has maintained its biological weapons programs despite its commitments to the BWC and the Geneva Protocol. Cultivating agents of anthrax and smallpox which could be used for malicious purposes. Given North Korea's past reputation in the secret development of weapons and arms, it is vital to ensure there are no plans of extremist use through these several advancements in technology.

This can potentially be done through more mediating peace talks, which although may often be inconclusive, will ultimately help what may even be a small margin, to ensure the DPRK does not plan to engage in this sort of ideology.

UN Involvement, Relevant Resolutions, Treaties and Events

- Biological Weapons Convention (BWC)

This convention aimed at the complete banning of the development, production, acquisition, transfer, stockpiling, and use of biological weapons precisely. Countries that have not, however, include Israel, Chad, Comoros, Djibouti, Eritrea, Kiribati, Micronesia, Namibia, South Sudan and Tuvalu. The convention was signed by 185 state parties along with 4 signatory states and was initiated on the 26th of March 1975.

- This convention is regarded to be very successful at eliminating biological weapons as no countries have been reported to be using them since its implementation in 1975 according to the US Department of State. More reports however mention that certain countries such as the DPRK are still developing biological weapons.

- Geneva Protocol 17 June 1925

This international law treaty prohibits the use of chemical weapons and biological weapons. The Geneva Protocol however did not ban the development, production, or stockpiling of these weapons hindering its potential to control biological weapons significantly. Resulting in other treaties being created later on.

- This treaty was overall not unsuccessful in eliminating biological weapons and they were frequently used later on in WW2 specifically in Nazi concentration camps

Possible Solutions

Regarding the prevention of terrorist attacks involving bioweapons. Some agreeable possible solutions could range from tightening the security of labs containing biological agents and stricter monitoring of systems commonly used to transmit the agents such as mail and drones. These measures can be implemented through detailed guidelines and legislations, which leave little 'wiggle room' for nations and organizations violating said legislations, hence leading to the eventual implementation of severe punishments and consequences.

On top of this to mitigate the effects of bioterrorism especially in the unfortunate event of a large-scale attack, the creation of better programs to treat and quarantine the affected people, could be deliberated upon. Through the use of advancing technology, and a clear policy during such events, member nations and delegates can ensure that those affected are treated in little response time, and in an effective manner.

A more aggressive and controversial solution could be to launch investigations into suspected countries' weapons arsenal to ensure that they are not hiding any biological weapons. This solution, although might be effective at preventing biological weapons from getting into the wrong hands, is destined to be met with challenges regarding a country's right to sovereignty.

Furthermore, member nations may potentially regulate or even ban the growth and development of synthetic biology and other related fields and technology. This solution, despite possibly preventing the threat of bioterrorism from becoming an even more lethal threat, will face much opposition. Possibly from the sheer unlikeliness that terrorists will use this technology in its current state and that it would limit scientific research.

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