

Forum: General Assembly 1 (DISEC 1)

Issue: Establishing Regulations Against the Production of Biological Weapons (SDG 16)

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Introduction

Biological Weapons, or known as germ weapons, is the spread of toxins and microorganisms into groups of people, or animals. The spread of the microorganisms could inflict diseases, such as the plague, between the groups. Biological weapons are similar to chemical weapons, radiological weapons, and nuclear weapons because they are all considered as weapons of mass destruction. However, in recent years the diseases of biological weapons has been responsible for more deaths compared to other weapons combined

The use of biological weapons is depended on four factors, the agent itself such as bacteria or fungi, the preparation of use, durability in the environment, and route of infection, such as the spread of the disease. They can be used through infections or inhale of one, or by a spot on the skin through cuts or wounds. The significance of Biological warfare agents is the type of organisms the weapon use in its system. There are five types of biological agents that can be used for terrorism, which are Bacteria, Toxins, Rickettsae, Viruses, and Fungi. Biological warfare are considered to hold a greater power and influence compared to chemical weapons or nuclear weapons

Although basic biological weapons (BW) have been in use as far back as the 13th century- and biological warfare itself since 14th B.C., the 1925 Geneva Protocol¹ was one of the

¹ The Geneva Protocol, also known as the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare, is a treaty banning the use of chemical and biological weapons between nations during times of conflict.

first ever treaties to formally ban use of this class of weapons when they were first used on a greater scale during World War I. The horrors and destruction that resulted had convinced many nations to sign and ratify Geneva Protocol. In 2013, more than 180 countries signed and ratified the Biological Weapons Convention (BWC), formally known as Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction. The BWC aimed at eradicating an entire class of weapons of mass destruction, as well as banning development, production, and stockpiling of such weapons. This action was a prolonged effort to supplement the effects of the Geneva Protocol, which prohibits use but not development or possession of biological weapons.

As biological weapons can easily be developed and produced, it is difficult to monitor their usage and stockpiling within countries. While nuclear weapons could easily be monitored by a third party for production or stockpiling, development of pathogens for biological weapons could easily occur behind closed doors. Additionally, much of the equipment used for developing biological weapons is also “dual-used” for agriculture, making external monitoring and verification virtually impossible. Recent uses of biological weapons include a suspected program in the Middle East, in countries like Iraq and Libya. According to a U.S. Congressional Research Service report conducted in 2008, China, Cuba, Egypt, Iran, Israel, North Korea, Russia, Syria and Taiwan are considered, with a range of certainty, to have some BW capability, despite almost all having signed a variety of treaties pledging to halt all production of BW.

Definition of Key Terms

Biological weapon

Also known as a “germ weapon”; any of a number of disease-producing agents—such as bacteria, viruses, rickettsiae, fungi, toxins, or other biological agents—that may be utilized as weapons against humans, animals, or plants. Biological weapons, among with Chemical, and Nuclear weapons, are weapons that considered as weapons of mass destruction. Biological Weapons, or sometimes referred to biological agents, are living organisms that can replicate within the host victim. Biological weapons, however, are not considered as conventional weapons due to their ability of mass destruction.

Biological warfare

Also known as “germ warfare”; the use of biological toxins or infectious agents during war with intent to kill or incapacitate life. The main concern for the production and stockpiling of biological weapons is that it will be used in biological warfare or other offensive acts. Previous examples of biological warfare have quickly and easily lead to the deaths of thousands, which is the main reason why biological warfare is explicitly condemned within many UN treaties, including the Geneva Convention and the Biological Weapons Convention. Furthermore, even simply testing biological weapons, as commonly done throughout the World Wars, can lead to the infection and death of very large groups of people, even if unintended.

Biological Warfare Agents (BWA)

Organisms or toxins used in a weapons system; include five different types that are capable of being used in warfare as weapons; such as bacteria, fungi, rickettsiae, toxins, viruses. Fungi, or fungus, are considered as a kind of living organisms, these organisms could include yeasts, mold, or mushrooms. Bacteria, or singular bacterium, are the different types of single-celled organisms. Toxins are any type of substance that is considered poisonous to the human body, which could inflict human deaths. Living organisms, or substances that were created by fungi, plants, or animals can create poison. Viruses are composed and small-sized agents that has the ability to infect or be infectious on living organisms.

Biological aerosols

Also known as the shorter form of “bioaerosols”, biological aerosols are solid airborne particles, typically derived from biological organisms or terrestrial ecosystems. These particles contain the agents used to conduct biological warfare or bioterrorism.

Confidence-building Measures (CBM)

Confidence-building Measures are actions taken to reduce tension in a situation with or without physical conflict and fear of attack from any parties involved within the situation. In 1986, nations that signed and ratified the Biological Weapons Convention agreed to exchange CBM “in order to prevent or reduce the occurrence of ambiguities, doubts and suspicions and in order to improve international cooperation in the field of peaceful biological activities.”

Deployment

In general, deployment is the movement of equipment or personnel to an area of conflict or action. In the context of this issue, deployment specifically means the movement of bioaerosols to the target area. The deployment of a biological weapons is far worse than simply researching or even producing BW, as they inevitably involve the contamination of either humans, crops, or animals, and the toxins or viruses are incredibly difficult to contain. The deployment of a BW could suggest biological warfare or mean that a nation is conducting testing of a weapon.

Sustainable Development Goals (Goal 16)

The Sustainable Development Goals (SDG) is a collection of global goals that was adopted in 2015 by the United Nations, which aims to achieve a more sustainable future for all. Goal 16 of the UN's Sustainable Development Goals is "peace, justice, and strong institutions." This goal mainly aims to promote peaceful societies for sustainable development, access to justice for all and build effective institutions. The goal has also been broken into several sections, such as Goal 16.1, "significantly reduce all forms of violence and related death rates everywhere", that particularly attains to this issue of biochemical weapons that are a threat to world peace.

Weapon of Mass Destruction (WMD)

Weapons of Mass Destruction are weapons that can kill, bring significant harm to a significant population, or cause great damage to infrastructure, natural structures, or the biosphere. The weapons of destruction could either be biological, nuclear, or chemical, and are the most frequently used destructive weapons.

Background Information

First recorded uses of biological weapons

There have been a handful of recorded uses of biological weapons that date back far beyond the 20th century, including rudimentary attempts of poisoning, infected ships, and more. However, historians often have trouble discerning natural epidemics and infections with man-made bioterrorism, as there is usually little evidence to show the difference. In the

beginning, the use of biological warfare began when Scythian archers turned their arrows to biological weapons. The Scythians would dip their arrows in decomposing bodies back in the 400 BC.

An even earlier example is in the 14th century B.C., when bioterrorism arguably began with the Hittites that sent infected rams to their enemies. Amidst an expansion campaign, they infected sheep and similar animals with tularemia, an infection carried by animals that is fatal to humans. This occurred when the Hittites attacked the Phoenician city of Smyrna on what is now the border of Lebanon and Syria, which is also when the first recordings of a Hittite Plague appear.

Later on, biological weapons was known as infectious diseases which could inflict death at a large scale. The impact of infectious diseases alarmed Solon, an Athenian statesman, back in the 600BC when the use of agents have weakened the army. Polluted wells and water sources were one of the main causes of infection that occurred. The use of biological weapons has then increased through centuries. In the 18th century, during the French and Indian War, blankets that had been used by victims who had suffered with smallpox were given to the Native Americans by the British force as a way of spreading the disease.

When it reached the 19th century, the use of Biological Weapons was revealed during the two World Wars. There is evidence that suggests the first use of biological weapons started with the warfare programs of Germany in World War I. The German Army developed a noticeable disease that occurs with sheep called anthrax, among with other diseases such as glanders. These diseases were developed specifically with the purpose of using them as biological weapons. They were able to spread plague in St. Petersburg, Russia, infecting mules in Mesopotamia. During World War 2, multiple countries began research on biological warfare. These countries include Japan, the United Kingdom, the Soviet Union (Russia now), and France. The Japanese force's first use of biological weapons began with the country's research and planning of the weapons, which was leaded by the Imperial Japanese Army. They operated a research in Manchuria, where the Japanese army tested the biological weapons on prisoners. More than 3,000 victims suffered from the exposure of plague, anthrax, and other agents. As a result, some of the victims were executed because of their infection. The infection on these victims allowed the Japanese Army to know the effects these diseases has on the human body.

World War I and II

The most devastating examples of biological weapons are all centered around this period, when attempts at bioterrorism became more refined and widely used. Some of the experiments conducted during this era lead to modern-day biological warfare programs in many first-world nations. There is evidence that suggests the first use of biological weapons started with the warfare programs of Germany in World War I.

The Imperial Japanese Army, Unit 731

Many nations began to sign and ratify the Geneva Convention after witnessing the events that transpired during World War I, eager to stop further destruction, including Japan. However, Japan continued to engage in large scale and covert research, development, and testing of biological weapons throughout the late 1930s to 1940s. The Japanese force's first use of biological weapons began with the country's research and planning of the weapons, which was lead by the Imperial Japanese Army. They operated a research in Manchuria, where the Japanese army tested biological weapons on prisoners.

A military unit, primarily for biological warfare, was created and named "Unit 731." Of the many cruel experiments carried out by Unit 731, most included forceful testing on Allied forces in mainland China. Ultimately, up to 400,000 people may have been killed. More than 3,000 victims suffered from the exposure of plague, anthrax, and other agents. As a result, some of the victims were executed because of their infection. The infection on these victims allowed the Japanese Army to know the effects these diseases have on the human body.

Involvement of other nations

Although there was no official documentation of any biological weapons usage during World War II, both sides had active research and development programs. The Imperial Japanese experimentation on Chinese subjects lead to the United States' decision to undertake a biological weapons program. Other nations also had research and development (R&D) programs, including the United Kingdom, Germany, and the Soviet Union.

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Major Countries and Organizations Involved

People's Republic of China

Despite the fact that the People's Republic of China (PRC) has signed and ratified the BWC, it is widely reported to have an advanced biological weapons program that includes research and development, production and weaponization capabilities. It also has a wide variety of delivery systems for chemical agents to include artillery rockets, aerial bombs, sprayers, and short-range ballistic missiles. Past reports by the United States departments of State and Defense have claimed that the PRC maintained a small-scale offensive biological weapons program even after joining the BWC, and that Chinese entities have contributed to several countries' chemical weapons programs, such as Iran.

Republic of Cuba

Cuba first experienced rapid boosts of biological technology development in the 1980s after an outbreak of Dengue fever broke out in 1981. Although previous Prime Minister Fidel Castro was a strong supporter in advancing the biotech sector of Cuba, he has repeatedly denied interests in strengthening bioweapons capabilities. This has been negated by a handful of Cuban army officers, but their claims have never been substantiated. The U.S. government has also directed numerous accusations of the existence of a biological weapons program towards Cuba, but there is currently no hard evidence.

France

France's role with biological weapons is because the party is all of the important nonproliferation and international prevention regimes. France controlled a program that focused on biological weapons during the 20th century, from 1921 to 1926, then from 1935 to 1940. France not only began their research, but they also weaponized insects such as the potato beetles during the 20th century. France focused their research on microorganisms that

later on caused cholera, anthrax, and salmonella. The scientists that worked with the program also carried out botulinum toxins.

Germany

During the first world war, the German biological weapons program's aim was to undermine the enemy's economic capacity to wage war. The program appears to have been hidden from the general public and was taken on despite the General Staff's position that biological warfare was illegal. The program only develops anti-animal and anti-crop pathogens, so there appears to be no intention of harming humans with the program's developed weapons. Germany appeared to mainly target U.S. (before its entry into WWI) and neutral nations that supplied Allied Powers. Germany is one of the 16 nations (plus Taiwan) to be suspected of having biological weapons.

Iran

Iran has publicly denied all development and production of biological weapons and ratified the Biological and Toxin Weapons Convention (BTWC) on 22 August 1973. Iran has been accused of secretly developing an offensive BW program, mostly in the 1990s, recent estimations tend to focus more on the dual-use capabilities that Iran's advanced civil biotechnology sector contain. Many believe that Iran has likely engaged in BW-related work previously, and that its capacity for pursuing a program is increasing over time.

Israel

Israel is believed to have an offensive program for biological weapons. Israel is recorded by the US Congress Office of Technology Assessment as a country possessing a long-term, undeclared biological warfare program. Israel has not signed the Biological Weapons Convention. It is currently impossible to conclude whether or not Israel maintains its biological weapons program, as there is no hard evidence, but it is widely assumed that the nation is capable of active production and dissemination of biological weapons.

Democratic People's Republic of Korea

Unlike its publicly declared desire to become a global nuclear power, North Korea has been much more covert with operations regarding biological weapons and similar programs.

North Korean defectors, United States officials, and South Korean officials all report that North Korea began a BW program as early as the 1960s. Open source information suggests that there is a wide range to the estimated capabilities of the North Korean BW program, from rudimentary and simple to advanced and ready-to-deploy.

Russian Confederation

The Russian Confederation began their first biological weapons program in the 1920s. By 1960, there were numerous BW research facilities scattered throughout the Soviet Union. Despite the fact that the Russian Confederation has signed and ratified the 1972 BWC, it has since continued to research, develop, and stockpile as many as eleven different bio-agents, and conducted basic research on many more. Many of the Russian Federation's programs were immense, employing over 50,000 people at 52 classified sites. A Russian politician, Boris Yeltsin, outright admitted to the existence of an offensive BW program in the 1990s. An agreement was signed with the US and UK to end harmful or offensive BW programs, but compliance and follow-through of the agreement is mostly undocumented.

United States of America

The United States Biological Weapons program began in 1943, initially in response to the rapidly advancing programs of ally and enemy states. Allegedly, the United States may have used biological weapons during the Korean War- around 1952- and against Cuba, in the 1960s. In 1969, however, President Richard Nixon ended all offensive parts of the BW program, and the U.S. would go on to sign and ratify the BWC. The US then proceeded to end the program, demolishing all stockpiles of biological weapons, including anti-animal and anti-crop pathogens. Currently, the U.S. bio-weapons ban and the BWC allow for a wide range to conduct research in many fields, as the limitations simply restrict work to be "defensive in nature." It is said that the U.S. now maintains that the Article I of the BWC (which explicitly bans bio-weapons), does not apply to "non-lethal" biological agents, though many claim that this is different from the historical understanding of the BWC.

United Kingdom

Although the United Kingdom is mainly centered in the use of nuclear weapons, but the UK's use of biological weapons goes back to 1934. The UK weaponized sheep with anthrax, which is a disease that affects the lungs of sheep, and also managed the research of other

bacteria agents that could cause diseases such as the plague. When it reached the late 20th century, the UK also joined the Biological and Toxin Weapons Convention (BTWC) in March 1975, which put a small end to the offensive biological weapons the UK used to have. One major action the UK did was the collaboration between the UK, United States, and Russia, they issued a joint statement that focuses on their support for BTWC, and called for the support from the other member states at the United Nations.

Pacific Northwest Center for Global Security

Pacific Northwest Center for Global Security, PNNL for short, is an organization that supports international treaties and agreements on the nonproliferation of chemical and biological weapons. On their official website, they describe themselves as “focusing on global security in the 21st century by helping to prevent nuclear proliferation worldwide. PNNL researchers participate in U.S. collaborations with nations of the former Soviet Union on warhead safety and security, safety improvements near nuclear installations and economic diversification of cities previously dependent on nuclear weapons research or production.”

Center for Nonproliferation Studies

A United States Non-Governmental Organization that helps provide research and training for nonproliferation specialists. Also known as the James Martin Center for Nonproliferation Studies, they claim to “[strive] to combat the spread of weapons of mass destruction (WMD) by training the next generation of nonproliferation specialists and disseminating timely information and analysis,” and to be “the largest nongovernmental organization in the United States devoted exclusively to research and training on nonproliferation issues.”

United States Army Chemical Corps

The Chemical Corps is a branch under the US army who is specialized in fighting destructive weapons such as chemical, biological and nuclear. The corps is also assigned to defend against the weapons through delivering the weapons rather than putting the weapons in use.

Nuclear Threat Initiative

The Nuclear Threat Initiative is known as a nonprofit organization that was formed in 2001, and is now located in the United States. The main objective is to protect human lives from chemical, nuclear, and biological weapons.

Timeline of Events

Date	Description of event
14 century B.C.	Hittites use rams infected with tularemia to attack a city, one of the first acts of bioterrorism.
Approx. 1347	Mongols throw bodies infected with the plague over city walls, possibly spreading the Black Death in Europe.
Jul 28, 1914 – Nov 11, 1918	World War I, in which bioweapons are first used on a worldwide scale, causing hundreds of thousands of deaths.
Jun 17, 1925	The Geneva Protocol is created after World War I. Many countries sign on in fear of biological warfare many experienced throughout the war
1935–1945	Imperial Japan use of biochemical weapons (Unit 731), leading to the deaths of tens of thousands and marking one of the most brutal biological weapons programs in history
Apr 10, 1972	Biological Weapons Convention (BWC) opened for signature, aiming to ban the research, development, production, and stockpiling of biological weapons
Mar 26, 1975	BWC entered into force with ratified countries
March 3rd, 1993	The U.S. government published in their Washington Post where it stated and claimed that China has an active biological weapons program. However, Beijing denies the claim, and a Foreign Ministry spokesperson in Beijing called the report "groundless."
Sept. 11, 2001	Suspected bioterrorism attack in the United States after 9/11 when the United States government received letters laced with anthrax spores, killing a small group of people and infecting hundreds

Feb 22, 2008	There was a training located in the Philippines where police officials from China, Bhutan, Bangladesh, Indonesia, Malaysia, and Thailand attended. The training was a five-day long, and focused on appropriate ways to respond to bioterrorism events.
Apr 16, 2013	“The Diversified Employment of China’s Armed Forces”, a written paper, was released by The Information Office of the State Council of China. However, the idea of Biological weapons were mentioned only in passing.
1980 - 1993	South Africa initiated a BW program in 1980, though it was later terminated around 1993. This was a limited and classified program, in which the program mainly researched the Bacillus anthracis, Vibrio cholerae and Clostridium species.
1981	A Dengue fever outbreak occurs in Havana, Cuba, and more than 300,000 people are infected. The Cuban government accused the U.S. government of a covert BW attack, though these claims are disputed.
Dec 2019 - present	Wuhan coronavirus rapidly spreads across the globe infecting thousands, possibly an act of bioterrorism.

Relevant UN Resolutions and Treaties

- Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, 13 January 2009 (**A/RES/63/88**)
- Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, 11 December 2013, (**A/RES/68/69**)
- Resolutions adopted by the General Assembly [on the report of the First Committee (A/55/559)] General and Complete Disarmament, 12 January 2001, (**A/RES/55/33**)
- *Endorses* the proposal for guidelines and procedures for investigations of reports on the possible use of chemical and bacteriological (biological) or toxin weapons contained, 4 December 1990 (**A/RES/45/57C**)

- Biological and Toxin Weapons Convention, signed 10 April 1972, effective 26 March 1975.
- United Nations Regional Center for Peace and Disarmament, 1987 (**A/RES/72/64**)

Possible Solutions

As previously stated, one of the main issues with monitoring a nation's engagement with biological weapons is, simply put, how difficult it is. It is essential for governments and member states to continue their support in organizations such as the Biological and Toxin Weapons Convention and other international organizations. These organizations are focused on the prevention of the development, and the building of the weapons. Asks for an immediate response from the World Health Organization (WHO), in response to the biological agents most likely used by state actors. Proliferate the spread of generic antibiotics to prevent the further spread of anthrax, and the growth of this fungus in trans-human, trans-animal, and transplant pathologies. Organizations could also work on Biodefense programs such as vaccines, which is a biological test provided actively as a resistance from diseases. Given that equipment for biological weapons can also be used for biotech sectors- for example, in agriculture and farming- external observation of research facilities cannot discern the exact purpose for said equipment. In order to help solve this issue, member states are encouraged to support organizations, who are focused on the research of biological weapons, with methods to identify stockpiles of biological weapons, cooperating to ensure transparency within a nation.

Solutions is effective when it comes to preventing the biological weapons could be sorts of an agreement between all member states that ban the research, development, and the creation of any weapons that are biological kind. It is important that every government of the member states must back the agreements and treaties. This could insure that if one disobeys the agreement, other member states have the right to interfere. With the interference of other members, this could help and discourage the country that still produces biological weapons, and restrain the creation, research, and development of any kind.

Additionally, encouraging all member states to agree to be open to inspection for development of biological weapons, ensuring that any development is purely defensive and impeding stockpiling, would thoroughly prevent the existence of governmental offensive bioweapons programs that many nations today currently have, though on different scales. However, one note to keep in mind is that it is challenging for all member states to agree to one

treaty or agreement. It is also not guaranteed that countries would want to be interfered with because of their development of biological weapons. It is also essential to reinforce and strengthen existing treaties such as the Biological Weapons Convention, which prohibits the development, production, and stockpile of biological weapons.

One of the possible factors behind why biological weapons are becoming a larger threat is the lack of a deterrent for pursuing a BW program. Combined with the ease at which a nation may research and develop BW undetected, the absence of a punishment if a nation did have an offensive BW program creates an environment in which nations may develop a program with impunity. The addition of a clause considering a possible punishment on member states, who have carried out use of biological weapons and caused death on a large scale, which can be set for a member state as a whole if found hosting a BW program may serve as one of few disincentives for member states to genuinely halt research, development, and production. Furthermore, in the case of member states or an organization funding a R&D program which lead to deaths on a large scale for biological weapons, having member states enact harsh penalties for individuals responsible for biological weapons' production and sales to non-state actors can halt worldwide production and research of biological weapons.

Another solution could be raising the idea of what the destruction biological weapons could do to groups of people, and the possible number of deaths it could inflict. One of the possible factors to why Actions must be taken towards preventing legitimate science, which lowered the barriers and standards of the development of the weapons. Methods of raising awareness could be campaigns by organizations, or through the use of social media by each member state. Member states should fund research into methods to identify stockpiles of biological weapons, lowering the chance of bioterrorism.

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