

**Forum:** Disarmament Committee

**Issue:** Mitigating the effects of biological agents in Indochina

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## Introduction

Weapons of mass destruction (WMDs) are regarded as the deadliest and most dangerous pieces of weaponry that mankind has ever produced. They are known for their ability to kill or significantly harm people and other living creatures at extremely large scales while also causing damage to artificial and natural structures. That said, most people think of nuclear weapons when the term is at stake. Nuclear weapons do have their fair share of danger and threat to the existence of humanity, as seen multiple times throughout history. Yet weapons of mass destruction also include biological weapons which are just as perilous for humanity.

Biological weapons are known for their high lethality, infectiousness, ease of dissemination, and difficulty of detection. The long-term impacts of biological warfare include chronic illnesses caused by the exposure to biological agents, delayed effects – such as cancer or other adverse changes in the genes – and nervous damages (Union of International Associations The Encyclopedia of World Problems). Thus, the tackling of biological weapons and the aftermath of the potential use of such weapons are extremely complicated. Yet the risks that biological weapons propose and previous outbreaks related to biological weapons aren't covered and displayed much in history and politics. The sheer threat of biological weapons was understood by the international community during the Cold War, especially in the conflicts and tensions that were taking place in Indochina. Although the perception of biological weapons by the international community was being shaped during the two world wars, the Indochina wars and the Cold War raised further concerns regarding the development, usage, and aftermath of biological weapons.

## Definition of Key Terms

**Biological agent:** According to the Occupational Safety and Health Administration, a sub-body of the United States Department of Labor, biological agents “include bacteria, viruses, fungi, other microorganisms and their associated toxins.” They are capable of having adverse effects on human health, ranging from mild allergic reactions to fatal medical conditions; eventually, leading to death. (Occupational Safety and Health Administration).

**Biological weapon:** The United Nations Office for Disarmament Affairs (UNODA) define biological

weapons as weapons that “disseminate disease-causing organisms or toxins to harm or kill humans, animals, or plants” that mostly consist of two parts, those being a weaponized biological agent and a delivery mechanism. For the weaponized agent of the weapon, “almost any disease-causing organism (such as bacteria, viruses, fungi, prions or rickettsiae) or toxin (poisons derived from animals, plants or microorganisms, or similar substances produced synthetically) can be used in biological weapons”. There have been different types of delivery mechanisms for biological weapons such as but not limited to missiles, bombs, hand grenades, rockets, spray-tanks that can be fitted to vehicles, brushes, and injection systems (UNODA).

**Bioterrorism:** Bioterrorism, according to the International Criminal Police Organization (INTERPOL), is “the deliberate release of viruses, bacteria, toxins or other harmful agents to cause illness or death in people, animals or plants” (INTERPOL).

**Arms race:** The term arms race refers to “a pattern of competitive acquisition of military capability between two or more countries” (Britannica).

## General Overview

### Biological Weapons Before the Cold War

The usage of biological weapons, although first recorded in the 1300s, occurred during the first world war in modern times, specifically by Germany with the purpose of sabotage. This was mostly done with the shipment of horses that were infected with toxins such as anthrax and glanders to the Allies. It is worth noting that the development and usage of biological weapons were quite rare as countries didn't have organized interests and endeavors towards biological weapons. France, though had some interest prior to the Second World War, never got to conduct research sufficient enough for application. Germany also conducted some research and activities but the documentation of the work was destroyed when Germany was invaded (Leitenberg, 2001).

The signing of the Geneva Protocol in 1925 banned the use of both chemical and bacteriological weapons. Yet France, though a party to the treaty despite its ownership of biological weapons already, reserved an exception from the convention: “the right to arm itself for retaliation in kind, that is, to prepare to strike back with germ weapons should it be attacked first.” This exception that France had shown shifted the international approach from a total ban to a “no first use” policy, which enabled other signatories to the convention – such as the United Kingdom (UK) and the Soviet Union – to justify their biological warfare programs that they would develop in the future. Though some countries did try to advance in biological warfare programs – such as the Soviet Union – during the two world wars, the UK and the United States of America (USA) were not interested in such developments. The

UK was concerned more with protecting civilians against the German air raids whereas the USA pursued a different path in that period of time. The American Senate lobbied by chemical weapon producers didn't ratify the Geneva Convention back then, thus had their chemical and biological weapon options open. Besides this, the US military experts didn't believe in the efficiency of biological weapons in comparison with that of conventional explosives, an opinion that lasted even when the US was conducting biological warfare programs. (Guillemin, 2006).

During the Second World War, France, the United Kingdom (UK), the United States of America (USA), and the Soviet Union suspected that Germany was carrying out a biological warfare campaign. Yet this suspicion didn't hold any truth as Germany was instead working on the expansion of its tank divisions and air force. It was also revealed after the second world war that Adolf Hitler had an aversion for biological weapons and didn't ratify their development in the first place (Geissler, 1999). Besides these, Japan carried out biological warfare quite actively in the second world war in their attacks against China. The Japanese mostly conducted these attacks for the sake of researching the effect of their biological agents as "the Japanese army poisoned more than 1000 water wells in Chinese villages to study cholera and typhus outbreaks." The Japanese also "dropped plague-infested fleas over Chinese cities or distributed them by means of saboteurs in rice fields and along roads." It's known that some of the epidemics caused by these attacks lasted for years and killed more than 30,000 people in 1947 (Frischknecht, 2003).

### **Biological Weapons During the Cold War**

In order to have a grasp on the use of biological agents in Indochina, it is necessary to have a solid understanding of countries' approaches towards the development of biological weapons at the time, specifically the dynamics between the USA and the Soviet Union at the time with regards to this subject in the context of the Cold War. This is because both the US and the Soviet Union were heavily involved in the background of Japanese biological warfare activity. After the second world war, at a time where the atrocities perpetrated by the Nazis were in the forefront whereas the biological attacks conducted by the Japanese towards China was overlooked, the US congress was exaggerating the "imminent threat of Soviet biological weapons". With this basis, American scientists initiated programs to "make biological weapons competitive with atomic bombs, with Soviet cities as their main targets." These programs continued in the 1960s and into the Vietnam War as the biologists and physicians of the time used all their technical skills for military purposes without any supervision by the military or the Congress. The usage of chemicals in the Vietnam War drew the attention of civilian scientists and brought the American biological warfare programs to a halt as "the widespread use of chemicals, riot-control agents and herbicides in Vietnam provoked international criticism and drew public attention to the less well-known US biological weapons program." Specifically the usage of a chemical weapon called "Agent Orange" caused long-lasting effects. Being a herbicide mixture, Agent Orange –according to the Red Cross – affected about 3 million Vietnamese people while causing 150,000 children to be born with birth defects. It's known that the herbicide usage by the US destroyed 5 million acres of upland forests and 500,000 acres of crops (Aspen Institute). Thousands of civilian

scientists signed a letter of concern to the president of the time, Lyndon Johnson, where their request for a review of US chemical and biological weapons policies was announced. The one who took action towards this letter was not President Johnson but rather his successor, President Richard Nixon. Nixon received a position paper from a biologist at Harvard that argued that less powerful countries would be able to easily imitate the American biological warfare research model, which would eventually cause harm to American security. Just a few months after the delivery of that position paper, President Nixon stopped the development of biological weapons on behalf of the US. This decision eventually paved the way for the Biological and Toxin Weapons Convention (BWTC), which required all parties “to ban all activities associated with the development of biological weapons”. This convention couldn’t address the issue properly as it couldn’t call for aggressive transparency measures due to the nature of the Cold War. With this loophole being existent in the convention, the Soviets initiated a large-scale biological offensive program. Though in clear violation of the convention which the Soviet Union was a party to, the Soviets justified their actions with the suspicion that the Americans secretly maintained their biological warfare program. The totalitarian secrecy behind this program that fit in with the administrative characteristics of the Soviets allowed them to carry out an unrestrained and industrial pursuit of biological weapons, employing tens of thousands of personnel (Guillemin, 2006).

## **Impact of Biological Weapons**

Biological weapons are known for their detrimental effects that are significantly dangerous both in the short and long run. Though the effect of biological weapons may be simplified when it is compared to that of other weapons of mass destruction, such as nuclear weapons, biological weapons have distinct and perilous effects that should be known properly so that the non-proliferation of them can be achieved adequately. Biological weapons are “either microorganisms like virus, bacteria or fungi, or toxic substances produced by living organisms that are produced and released deliberately to cause disease and death in humans, animals or plants”. Agents such as anthrax and botulinum toxin can cause a difficult public health challenge through causing large numbers of atrocities in a very short period of time. Furthermore, biological agents which are capable of secondary transmission thus easy dissemination can lead to epidemics as they spread among people. The development of biological weapons in a country may pose a threat to that country as well considering the fact that high-threat pathogens laboratories can be targeted on purpose during times of war or conflict, thus leading to an unwanted yet extremely serious biological leak or crisis (World Health Organization).

## **Major Parties Involved and Their Views**

### **United States of America (USA)**

As aforementioned, the US biological warfare program was initiated as a result of suspicions during the second world war that Germany and Japan were developing biological warfare capabilities. At the

initial stages of the program, strict secrecy was trying to be maintained as there was no information given to the public until the end of the second world war. At the initial stages of the war, George Merck – one of the people that initiated the program who was also a member of a panel advising the time's president Franklin Roosevelt – thought that conducting the program at universities and private research institutes would be inadequate and that “a large-scale effort was required to develop weapons and means of protection”. With this, the US started to work on biological agents at Fort Detrick, a special facility in Maryland. The American biological warfare program witnessed some of the most important technological achievements, such as “the development of small-particle-size aerosol dissemination of wet or dry preparations of pathogens”. In the 1950s and 1960s, the program further expanded as more sophisticated facilities were involved. After years of activity, thousands of people involved, multiple types of agents produced, President Nixon stopped the offensive biological weapons development in 1969. He instead led the country to using the facilities for peaceful purposes and bio-defense work. The main reason for this was that the US didn't want to compete with another country in a biological arms race as other nations could have acquired biological weapons. Furthermore, the US wanted to “make progress in negotiations to establish a convention banning biological and toxin weapons”.

There were two significant allegations towards the US about the usage of biological agents. One was the claim by China, North Korea, and the Soviet Union that the US used biological weapons in the Korean War, yet it was shown that these claims were “based on fabricated and false evidence”. The other significant allegation is one by Cuba that accuses the US of using biological agents on several occasions, yet this allegation was never proven (Roffey, 2002).

## Russia

The biological weapon programs conducted by Russia mostly concern those initiated by the Soviet Union. There were multiple allegations against the Soviet Union regarding the usage and supplying of biological weapons. The US Secretary of State accused the Soviets of supplying mycotoxins to Vietnamese and Laotian communist allies for military use, and of using the same agents in Afghanistan. The US also claimed that the Soviets violated the Geneva Protocol and the 1972 Biological and Toxin Weapons Convention.

The Soviets initiated their biological warfare program in the mid 1920s. Approximately 10 years after the initiation of the program, research upon methods of biological warfare that would integrate lethal infections was being conducted, yet the early development of the program remains obscure. The program didn't show the progress it was expected to show due to the Stalinist purges of microbiologists. Throughout the program, typhus – a group of diseases caused by bacteria – was developed as a biological agent, and “an aircraft dispenser for plague bacteria was invented”. Furthermore, the capture of the members of the Japanese biological weapons program provided data and plans for constructing biological weapons program facilities that were later on used by the Soviets.

At the time of the Korean War, there was a belief that the US was going to use large-scale biological agents against the Soviets. As a response to this, the Soviets constructed local laboratories and antiplague institutes in order to rapidly investigate any and all possible outbreaks. Though the Soviet Union was a signatory to the Biological and Toxin Weapons Convention, it massively enlarged its biological weapons program, which may have been triggered by the disinformation campaign carried out by Washington that claimed the US was carrying out a highly sophisticated and dangerous biological warfare program. In order to take advantage of this rapid progress, a special secret organization called the Biopreparat was created to develop biological warfare technologies. This organization – along with other governmental bodies such as the Ministries of Health and Agriculture, KGB, and the Academy of Sciences – helped the establishment of mobilized biological warfare facilities.

At its height, the biological warfare program “as a whole involved about 60,000 people in 40-50 facilities”. The program was highly obscure and surrounded by high security. It was extremely difficult to get inside information about the program, so difficult that the West “had very limited information until several high-ranking members of the program defected” towards the end of the Cold War. From 1989, “there was a concerted effort by the USA and UK to end the Soviet biological warfare program”. This included a trilateral process with mutual inspections which worked only until 1994 and wasn’t revived again. In 1992, “President Yeltsin issued a decree to the effect that there had been a delay in implementing the Biological and Toxin Weapons Convention and that further offensive work would be banned” (Roffey, 2002).

### **United Kingdom (UK)**

The early stages of the British biological warfare program dates back to the 1940s, where the UK “had a limited biological program to provide a retaliatory capability should UK forces be attacked using biological warfare”. One of the key aspects of the British biological warfare program was experimental aerobiology as “the need to investigate aerosols led to research on techniques and equipment to enable experimental progress”. The British studied airborne biological particles and agents, their movements and interactions with living organisms. An experimental setup that enabled the delivery of botulinum toxin through an inhalation route was developed throughout this research period. Furthermore, the UK conducted several field trials that allowed them to understand the potential risk that aerosols generated by explosive and spray releases pose to a large population. After the political climate of the time pushed the UK to realize the environmental parameters that could be harmed by the effects of released pathogens, the biological warfare program shifted to laboratory research. The research investigated how humidity acts on biological agents and allowed the British to create pathogens with profiles that could survive humidity. The investigations carried out regarding aerobiology during both the offensive (1940 to late 1950s) and defensive (1940 to present) biological warfare programs demonstrate how a dual-use technology sets an ideal example as the output of such research could be used for both military and civilian applications. As the Biological and Toxin Weapons Convention entered into force, the UK – as a depositary country of the agreement along

with the US and Russia – committed to the non-proliferation of biological weapons (Beedham, 2021).

## China

China has become a signatory both to the Geneva Protocol and the Biological and Toxin Weapons Convention. China is one of the countries that suffered from the use of biological weapons the most as it was the victim of biological attacks perpetrated by the Japanese, which led to “Beijing’s future efforts to develop a stronger biodefense infrastructure and a biotechnology industry with substantial dual-use capabilities that can be used for both biodefense and bioweapons”. Due to China’s past struggle with biological warfare, Beijing says that they don’t have an offensive biological program, which is something that many countries doubt due to the fact that China’s biological dual-use infrastructure may allow them to easily shift their policy in biological warfare. One of the countries that highly doubt China’s integrity in their biological defense program is the US as multiple American intelligence officials accused China of violating the conventions it’s a signatory of through selling dual-use biological agents that can have both civilian and military applications. In fact, the US believes that this export of biological materials led to the initiation of the Iranian biological warfare program. China banned the export of 14 additional biological agents in response to these allegations, yet it is still believed that China “has helped Iran and other Middle Eastern nations build their biological weapons program”. Further reports from the US essentially show that China possesses the necessary technology and infrastructure to maintain a biological warfare program, yet the extent of the program remains unknown to the international community. The Nuclear Threat Initiative states that “China possesses the required technology and resources to mass-produce traditional biological weapon agents as well as expertise in aerobiology”. Washington further states that there are two main facilities linked with the biological warfare program that China undertakes: the Chinese Ministry of Defense’s Academy of Military Medical Sciences Institute of Microbiology and Epidemiology in Beijing, and the Lanzhou Institute of Biological Produces. China states that the first of those facilities is one of the former facilities used for biodefense whereas the second one is used for vaccine production. It is further estimated that Beijing utilizes at least 50 other laboratories and hospitals in order to conduct research on biological weapons (Pfluke, 2020).

## North Korea

North Korea is a party to the Biological and Toxin Weapons Convention and the Geneva Protocol, yet was always suspected of maintaining a biological weapons program, which actually began in the 1960s under the leadership of Kim Il-sung. Unlike North Korea’s chemical warfare program, the biological warfare program was conducted quite secretly. Assessments by the US and South Korea suggest that North Korea is capable of producing a variety of deadly biological agents such as anthrax and smallpox. It is believed that the biological warfare program was established as a response to the alleged American use of biological weapons in the Korean War. Little to no information is present regarding the current status of North Korea’s biological warfare program and biological arsenal, though there are suspicions regarding the dual-use capabilities of North Korean facilities (Nuclear

Threat Initiative, 2018).

### Iran

Iran became a signatory to the Biological and Toxin Weapons Convention in 1973 and has criticized the usage of all forms of weapons of mass destruction, including biological weapons. Despite these statements and actions, there were allegations directed towards Iran by the international community regarding the development of an offensive biological weapons program. Such allegations were mostly based upon American intelligence which initially claimed that Iran possessed stockpiles of biological agents whereas it recently claimed that Iran’s pursuit of dual-use technologies could be used for biological warfare (Nuclear Threat Initiative, 2020).

### Vietnam

Vietnam was mostly involved in the matter of biological warfare through the Vietnam War, also known as the Second Indochina War. As aforementioned, Vietnam has long suffered from the usage of a chemical weapon known as Agent Orange, which is a type of herbicide. The usage of the weapon had long-lasting effects on Vietnam’s environment and public health. This weapon that was widely used by the American military during the war was primarily used to remove forest cover and crops but had more serious and perilous consequences. As for biological weapons, there is no evidence or allegation that claims that Vietnam is developing any biological weapons. Vietnam is a signatory to the Biological and Toxin Weapons Convention, thus promoting the banning of biological warfare and its development.

### Timeline of Events

<p><b>17 June 1925</b></p>	<p>The Geneva Protocol, a widely recognized treaty that prohibits the use of chemical and biological weapons in international armed conflicts, was signed.</p>
<p><b>1 November 1955 - 30 April 1975</b></p>	<p>The Vietnam War, also known as the Second Indochina War, occurred where the use of various chemical weapons raised concerns about the compliance of the international community to the Geneva Protocol.</p>



<b>10 April 1972</b>	The Biological and Toxin Weapons Convention – a disarmament treaty that aims to ban the use, development, production, acquisition, transfer, stockpiling, and use of biological and toxin weapons – was signed.
<b>26 March 1975</b>	The Biological and Toxin Weapons convention entered into force and became effective.

## UN Involvement

One of the most significant efforts undertaken by the UN is the establishment and promotion of the Biological and Toxin Weapons Convention. This effort allowed the UN to attain an international framework that addresses the use of biological agents throughout the world, acting as a common document that could be referred to in any case relating to biological weapons. The UN further tries to promote this disarmament treaty by actively holding review conferences, where Member States discuss the enforcement of the treaty and seek for measures to enhance its implementation.

## Relevant UN Documents

**United Nations Security Council Resolution 1540, (28 April 2004, S/RES/1540), a resolution by the Security Council deciding that “all States shall refrain from providing any form of support to non-State actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery”**

[United Nations Security Council Resolution 2663](#), (30 November 2022, S/RES/2663)

## Treaties and Events

- Geneva Protocol: The Geneva Protocol – also known as the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gasses, and of Bacteriological Methods of Warfare – is an international agreement that prohibits the use of chemical and biological weapons in wars (United Nations Office for Disarmament Affairs).
- Biological and Toxin Weapons Convention: The Biological and Toxin Weapons Convention is a supplement to the Geneva Protocol that prohibits the development and usage of all sorts of biological weapons. It is the first multilateral disarmament treaty that bans “an entire category of weapons of mass destruction” (United Nations Office for Disarmament Affairs).

## Evaluation of Previous Attempts to Resolve the Issue

The first international and diplomatic effort towards tackling the use and effect of biological agents in the world was the establishment of the Geneva Protocol. Although the treaty did prohibit the use of chemical and biological weapons during war, it didn't address the development, production, and stockpiling of such weapons, thus leaving a loophole that allowed countries to continue their development of biological warfare programs. The Biological and Toxin Weapons Convention came out as a supplement to the Geneva Protocol as it addressed the fundamental aspects relating to biological weapons that the Geneva Protocol didn't. Furthermore, the convention is legally binding, meaning that the signatories of the convention are legally expected to abide by the rules and regulations set by it. A significant drawback regarding the convention though is its proper enforcement and verification mechanisms, as it's difficult to ensure whether Member States are properly complying with the convention. Another significant attempt to resolve the issue was the UN Security Council Resolution 1540 which mandated all Member States to enforce laws to prevent the proliferation of weapons of mass destruction.

## Possible Solutions

It is of extreme importance to maintain the proper implementation of international frameworks regarding the non-proliferation of biological weapons in order to prevent biological weapons from posing significant risks in the Indochina in the first place. Frameworks such as the Geneva Protocol and the Biological and Toxin Weapons Convention should be equipped with proper enforcement mechanisms that ensure the compliance of Member States to the regulations determined by these conventions. This can be achieved by the more frequent holding of review assemblies where Member States report their progress and improvements with regards to their compliance with the said conventions. Yet the proper enforcement of these conventions alone is not enough. International organizations that ensure the biotechnology industries of countries are not working towards a biological warfare program should be established so that the dual-use technologies – meaning that they can be used both for offensive and defensive purposes – are used for peaceful purposes. More specific measures can and should be adopted for Indochina. One of the most significant measures for the region is the encouragement and provision of regional cooperation in Indochina in order to expand the capacity in health surveillance and response systems in order to assure that biological weapons are not developed, but if they are, swift measures are taken. Such regional cooperation may be achieved through the Association of Southeast Asian Nations (ASEAN) or through the establishment of a new regional body specifically for biological warfare that would consist of Member States that had a history with the usage and aftermath of biological weapons. As for tackling the long-lasting effects of biological warfare, there are some potential steps that should be taken in order to deal with the environmental and medical aspects of the issue. Environmental restorations projects and techniques can be devised not only to alleviate the environmental damage that biological weapons have already brought but to also be prepared for dealing with the aftermath of a possible biological attack.

Furthermore, plans and regulations that specifically aim for the restoration of public health after a biological attack should be integrated into the healthcare systems of countries. This includes the creation of specific treatments for people that are still suffering from previous biological attacks.

## Notes from the Chair

Please make sure that you have a grasp on the fundamentals of the Geneva Protocol and the Biological and Toxin Weapons Convention as these are the two most important frameworks that can be applied to the biological warfare case in Indochina. Make sure that you do further research about the Indochina wars, the usage of biological weapons by Japan, and the biological arms race during the Cold War.

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