Committee: Disarmament and International Security - DISEC

Issue: A new arms race: facing bioterrorism

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PERSONAL INTRODUCTION

Dear delegates,

My name is Ariadni Papouli, I am a student at Pierce - the American College of Greece and I will be serving as one of the 1st GA Committee's (DISEC) Deputy Presidents. I have been involved with Model United Nations for two years now and this educational simulation has contributed greatly to the person I am today. I am incredibly happy to be a student officer at the 7th ATS MUN, especially since it was my first ever conference as a delegate. I hope that I will be able to provide you with significant knowledge and a pleasurable experience, as well as contribute to the discovery of your passions like such conferences have done for me. As I find it truly important to stay updated on global issues, because it is the best way to educate yourself, I have really enjoyed researching the topic "A new arms race: facing bioterrorism" which currently evolves due to the developments in the biological, chemical and technological sector. I am looking forward to reading your progressive resolutions as well as listening to fruitful debate on this issue! For any further questions do not hesitate to contact me through my email: a.papouli@acg.edu.

INTRODUCTION

Bioterrorism is a form of intended violence which began fourteen centuries before Christ, when Tularemia, an animal-borne infection that kills humans, was used by the Hittites of Asia Minor to aid their expansion campaigns and dread their enemies. Since then, there have been many diverse bioterrorist attacks worldwide which were handled in varied ways. This issue is currently expanding due to the COVID-19 pandemic and as such the assumptions of it being a bioweapon warfare strategy because of the virus' expansion all around the world. Furthermore, due to the progression of technology, the development and sourcing of biological weapons is rapidly advancing, biological agents are available in a wider scope of people, therefore leading to attacks and the possible notoriety of a new arms race, making this issue of paramount significance.

Additionally, since biotechnology plays a major role in the treatment of war injuries, disease control and prognosis, and security against biochemical toxic agents, its crucial for the issue of bioterrorism as a new arms race. It demonstrates its benefits in increasing fighting power, resisting fatigue, sensing and monitoring the battlefield, and developing military biomaterials. Biologists have frequently used plain analogies to support the military on complex evolutionary processes since modern biotechnology can be directly used as both material for defense and attack. Therefore, this kind of technology can seriously impact bioterrorism attacks as well as their formulation as an arms race, meaning that they are truly important for our topic.

DEFINITION OF KEY TERMS

Terrorism

Terrorism is the deliberate use of violence to establish a general state of fear in a population and thus achieve a specific political, religious or ethnic goal.

Bioterrorism

Bioterrorism is the intentional release of viruses, bacteria, or other germs (agents) with the intent of causing illness or even death in humans, animals, or plants.

Biological Weapons (BW)

Biological weapons are microorganisms and natural toxins (agents) used purposefully to cause disease in humans, animals, or plants, and are the most dangerous weapons to ever exist. These substances, extracted from several sources, become weapons when combined with a delivery system. The given weapon's potential threat is determined by its lethality, its infectivity, and its virulence.

Weapons of Mass Destruction

Weapons of mass destruction (WMDs) are capable of inflicting death and destruction on tremendous and unrestrained levels, while existence in the hands of a hostile power can be regarded as a significant threat.

Agents

Biological agents are abundant in the natural environment and, as a result, are present in a wide range of occupations.

Arms Race

Arms race is pattern of numerous countries competing for military strength acquisition. The approach is commonly used very broadly to refer to any military escalation or increase in spending by a group of countries. This buildup's competitive nature frequently reflects an adversarial relationship.

Biotechnology

Biotechnology is biology-based technology which harnesses cellular and biomolecular procedures to create services and products that enhance our lives and health of our world.[1]

Lethality

Lethality is the capability of resulting in death, severe damage, or harm.[2]

Virulence

Virulence is the intensity or toxicity of an infection or venom.[3]

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[1] "What Is Biotechnology?" BIO, www.bio.org/what-biotechnology.

[2] "Lethality." Dictionary.com, Dictionary.com, www.dictionary.com/browse/lethality.

[3] "Virulence." Merriam-Webster, Merriam-Webster, www.merriam-webster.com/dictionary/virulence.

Infectivity

Infectivity is when the property of a contagious disease allows it to access, survive, multiply, and cause illness to a susceptible individual. It can also be inferred that it is the fraction of exposures under specified conditions that result in infestation.[4]

BACKGROUND INFORMATION

Historical Background

In the Middle Ages, armed forces identified that survivors of bacterial infections could be used as weapons. In 1346, the assaulting Tartar force encountered a plague outbreak while sieging Caffa, a well-secured Genoese-controlled seaport (now Feodosia, Ukraine). The Tartars, on the other hand, turned their ill fortune into an advantage by throwing the corpses of their deceased into the city, sparking a plague outbreak. Following the plague epidemic, the Genoese armies were forced to give away. The plague contagion, known as the Black Death, as well, swept through Europe, the Near East, and North Africa in the 14th century, and is widely regarded as the most catastrophic health incident in human history. The origin of the plague is unknown, however, numerous nations in the Far East, including China, Mongolia, India, and Central Asia, have been proposed.

Gabriel de Mussis, an official born in Piacenza north of Genoa, defined the Caffa incident in 1348 or 1349 with two key assertions: plague was conveyed to the civilians of Caffa by the throwing of infected corpses into the surrounded city, and Italians escaping Caffa carried the plague into the Mediterranean port facilities. Boats transporting plague-infected migrants travelled to Constantinople, Venice, Genoa, and other Mediterranean major ports, contributing to the second plague disease outbreak. Nevertheless, despite the challenging epidemiology of plague, assuming that a single biological assault was the real source of the plague pandemic in Caffa and even the 14th-century plague epidemic in Europe may be an exaggeration. Even so, the account of a biowarfare strike in Caffa is reasonable and precise with the available technology of the time, and even with its given historical insignificance, the siege of Caffa serves as a strong reminder of the disastrous consequences of using infections as assault rifles.

[4] "Infectivity Definition." The Free Dictionary, Farlex, https://medical-dictionary.thefreedictionary.com/infectivity.

Many other attacks happened during that period, that resulted in the death of over 25 million Europeans and indicated the various uses of infection and toxins during war.

Consequences of bioterrorism and dangerous uses of biotechnology

Bioterrorism is truly concerning since small amounts of biological agents can kill or severely harm a great number of people. Even when there are only several fatalities, these kinds of attacks can have significant and far-reaching mental, financial, and social ramifications.

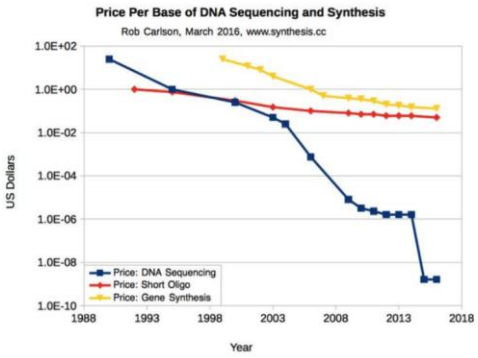
There are many identified psychological consequences of bioterrorism. More specifically, there are two types of such consequences, emotional and behavioral ones. Medical mental illnesses such as post - traumatic stress disorder are examples of emotional consequences, wherein people demonstrate the full cluster of side effects and deficiency necessary by clinicians to diagnose. Less serious generalized discomfort and nervousness, as well as symptoms of psychological conditions which may not fulfill medical clinical definition, are also emotional consequences. Behavioral consequences include behavior like calling for medical care, increasing one's use of nicotine, alcohol, or illegal drugs, evading a location, or evicting a congregation.

Technological Advances and their contribution to bioterrorism as a new arms race

Numerous advances in science, technology and artificial biology are directly connected to the use of bacterial infections as biological weapons. Advances in technology result in the decrease of biological agents in both number and types, therefore, they make them available to a wider range of people. Additionally, they are related to the nature and costs of conducting research, as well as the broadening of expertise across populations in Western countries.

Declined costs of agents and equipment

The value of synthesizing biological agents has declined substantially in tandem with advances in biotechnological research. Short DNA fragments can now be synthesized for as little as €0.30. The 3,215 base pairs of the Hepatitis B virus genome, for example, can be formulated for less than €100. Consequently, conducting bioterrorist attacks can be much easier because of the decreased cost of the required equipment.



MAJOR COUNTRIES AND ORGANIZATIONS INVOLVED

China

China ratified the Biological Weapons Convention (BWC) in 1984, which "effectively prohibits the development, production, acquisition, transfer, stockpiling, and use of biological and toxin weapons." China has openly declared that it has complied with its obligations under the BWC in "good faith," and that it does not develop, produce, stockpile, or possess biological weapons. These claims, nevertheless, have been frequently refuted by accusations of producing and possessing biological weapons and continuing their BW program since ascending the BWC. Former First Deputy Director of the Soviet Biopreparat, the body in charge of the Soviet biological weapons program, Ken Alibek, has claimed that in the late 1980s, two epidemics of hemorrhagic fever occurred near China's nuclear testing site at Lop Nor, which "were caused by an accident in a lab where Chinese scientists were weaponizing viral diseases". The "Made in China 2025" initiative, which points up China's biotechnologies and its current five-year plan has been accentuated. The program might be harmless by itself, however, the developments in China combined with possibilities for military applications of the research sets off evident. While this information can be used to further emerge essential disease treatment options and precision medicine, it can also be used to design precision biological weapons. Furthermore, China's National Intelligence Law and Military-Civil Integration strategy will grant its armed forces access to all civil research and infrastructure facilities, which potentially turn the dual systems hostile. While China is spoken to have investigated numerous BW agents, they are also accused of initiating toxic viruses such as the SARS, Japanese encephalitis, influenza H5B1 and dengue.

Iran

Since the 22nd of August 1973, when Iran ratified the Biological and Toxin Weapons Convention (BTWC), they have publicly broken down all weapons of mass destruction (WMD). Although Iran has been convicted by certain countries of secretly constructing an insulting BW

program, especially during 1990s, more recent reports have generally avoided such definitive statements, rather highlighting Iran's robust civil biotech industry's dual-use functionality. Iran's biotechnology industry is one of the most progressive worldwide, and therefore, they have been endorsed as top of their field in Southwest Asia in fields such as pharmaceuticals, vaccine research and development and agricultural biotechnology. Iran also has three important medical research facilities. These being the Pasteur Institute and the National Research Center of Genetic Engineering and Biotechnology (NRCGEB) which concentrate on human health, and the Razi Institute for Serum and Vaccines which studies both human disease and zoonoses. Iran's work in the medical sciences has allowed it to develop vaccines and novel therapeutics. However, for instance, The NRCGEB's knowledge and experience in recombinant DNA technologies, genetic engineering, and DNA vaccine development could potentially be used to study strategies to boost the virulence or opposition of specific pathogens, and Pasteur Institute machinery for mass-producing vaccines and antiserums could also be used to mass-produce biological weapons. Iran has been accused of possessing several kinds of agents such as plague bacterium (Yersinia pestis), botulinum toxins and anthrax bacterium (Bacillus anthracis), their information systems do not manually include them.

Japan

Prior to 1945, Japan had an efficient biological warfare (BW) program. During the Japanese occupation, the program's focus was the now-infamous Unit731, which was relied on a laboratory facility in northeastern China. Unit 731 tested numerous biological agents on Chinese civilians and Affiliated Prisoners of Wars, which include plague, cholera, and hemorrhagic fever. Moreover, Japan's armed forces utilized biological weapons against China. The majority of information acquired by the Japanese military throughout WWII was seized by the US military. Following WWII, the Japanese government discontinued its BW program. Japan signed and ratified the BTWC in 1972 and 1982 and has openly supported the discussion of guidelines to reinforce the treaty's provisions. On March 20, 1995, numerous packages of lethal sarin gas were detonated in the Tokyo subway system, killing twelve individuals and injuring more than 5,000 others. Tokyo police quickly learned who had planted the chemical weapons and began tracking the terrorists down, eventually finding out that Aum Shinrikyo (Supreme Truth) cult initiated the gas attack. Since then, Japan has stepped up its efforts to counter bioterrorism.

Russian Federation

The legacy of Russia's BW program exhibits biological weaponization risks as well as environmental contamination issues. Russia has done actions to minimize biological disarmament risks with extensive international assistance; however, the majority of nonproliferation programs since the collapse of the USSR have clarified nuclear rather than biological threats. In order to emanate themselves from former Soviet Republics, Russia launched programs aimed at assisting in the dismantlement and transition of BW infrastructure, engaging former BW experts through cooperative investigation and employment reallocation, and improving biosecurity and biosafety. The most remarkable one was the U.S. Cooperative Threat Reduction (CTR) Program since it led to the decrease of threats from biological weapons since 1997. Nevertheless, stemmed from Russia's microbiology facilities which are not open to visitors, concerns remained about the extent to which Russia had dismantled the former Soviet program, as well as possible ongoing BW-related activities.

United States of America

Throughout World War II and the Cold War, the United States developed a vast offensive biological warfare (BW) program that included a wide range of anti-personnel, anti-crop, and toxin weapons armed with Bacillus anthracis (anthrax) and Coxiella burnetii, among others (Q-fever). However, based on a thorough investigation, President Richard Nixon unilaterally terminated this program on November 25, 1969. Nevertheless, that did not prevent them from being attacked. In October 2001, a case of anthrax ingestion in the United States was revealed in a media company worker in Florida. Surveillance was increased through health-care facilities, laboratories, and other means in order to identify cases, which were characterized as clinically compatible illness with laboratory-confirmed B. anthracis infection. From October 4 until November 20, 2001, 22 incidents of anthrax were detected (11 inhalational, 11 cutaneous); 5 of the inhalational cases were deadly. Twenty (91%) of the case-patients worked as mail handlers or were exposed to workplaces where irradiated mail was processed or received. Illness and death occurred not only at specific work sites, but also along mail routes and in other settings.

World Health Organization (WHO)

WHO focuses on the public health and the consequences that actions have on it notwithstanding of the reason behind it. WHO's global alert and response activities and the Global Outbreak Alert and Response Network represent a major pillar of global health security

aimed at the detection, verification and containment of epidemics. In the event of the intentional release of a biological agent these activities would be vital to effective international containment efforts.

North Atlantic Treaty Organization (NATO)

NATO has focused on forming specific defense methods on the issue. As an effort to do so they have written a related book. The book investigates microbes and their potential use in forensic science, i.e., as a potential detection method that might allow for the fast and accurate identification of treats. Food security is yet another critical component, particularly in large food systems such as air carrier caterings, formalized kitchens, and so on. Additionally, the NATO Parliamentary Assembly has formed a parliamentary draft report on Biological Weapons, more specifically the "Technological Progress and the Specter of Bioterrorism in Post-Covid-19 Era". This draft was formed because of the exposure on worldwide weaknesses to biological threats and realigned focus on the prospect of intentional biological attacks.

International Criminal Police Organization (INTERPOL)

INTERPOL makes great efforts for the provision of effective training for law enforcement and appropriate state bodies on how to mitigate, prepare for, and react to a bioterrorist attack worldwide. They do so by hosting a workshop on bioterrorism risks and controls and on biological threat identification for investigations on foreign terrorist fighters , enforcing dual-use materials awareness workshop for law enforcement, and conducting darknet investigation training course for countering biological and chemical terrorism activities on the darknet.

TIMELINE OF EVENTS

Date	Biological and Chemical warfare used in the past 2000 years
1797	Napoleon floods the plain around Mantua, Italy, in order to enhance the spread of malaria
1863	Confederates sell clothing from yellow fever and smallpox patients to Union troops during the US Civil War
World War I	German and French agents use glanders and anthrax

World War II	While Japan uses plague, anthrax, and other diseases, several other countries experiment with and develop biological weapons programs
1980-1988	Iraq uses mustard gas, sarin and tabun against Iran and ethnic groups inside Iraq during the Persian Gulf War
1992	Dr. Ken Alibek flees former USSR; debriefing indicates substantial bioweapon programs
2001	Four cases of anthrax inhalation took place in workers at the Washington, D.C., Postal Processing and Distribution Center (DCPDC) in October 2001. These incidents were key component of a multicenter epidemic of intravenous and visceral anthrax linked to the deliberate allocation of envelopes containing Bacillus anthracis microorganisms to mainstream press and national administrative buildings.

UN INVOLVEMENT: RELEVANT RESOLUTIONS, TREATIES AND EVENTS

First Committee Warns of New Arms Race- Emerging Bioterror Threats on Security Horizon

In October 2020, an intense debate between the officers and the delegates of the General Assembly was held regarding warns of new arms race, emerging bioterror threats on security horizon, imploring nuclear weapon nations to cut arsenals. The Chair of the First Committee (Disarmament and International Security) stated at the beginning of its annual general debate that "As the world grapples with the COVID-19 pandemic and a global economic downturn, a new arms race and evolving bioterror risks are unraveling". Izumi Nakamitsu, the Under Secretary General and High Representative for Disarmament Affairs, brought up the prospect of a new arms race while underlining tough possibilities such as bioterror attacks, as well as conventions yet to comes into force, ranging from the 1996 Comprehensive Nuclear Test Ban Treaty to the 2017 Treaty on the Prohibition of Nuclear Weapons. During the subsequent general debate, delegates expressed opposing viewpoints, warning against a new cold war and highlighting national and regional challenges ranging from the United States' discontinuation from the Joint Comprehensive Plan of Action on Iran's

nuclear program to a possible space arms race. This debate was an opportunity for nations and individuals to gain knowledge upon the topic of bioterrorism as a new arms race.

The Biological Weapons Convention

The formally known as "Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction" is an international agreement prohibiting the use of biological agents in warfare and restricting the progression, manufacture, acquisition, stockpiling, or transition of such weapons. This convention came into effect on March 26, 1975, and as of May 2021, 183 states have signed and ratified it. Below you will find the key provisions of the Convention:[5]

Article	Provision
Article I	Undertaking never under any circumstances to develop, produce, stockpile, acquire or retain biological weapons.
Article II	Undertaking to destroy biological weapons or divert them to peaceful purposes.
Article III	Undertaking not to transfer, or in any way assist, encourage or induce anyone to manufacture or otherwise acquire biological weapons.
Article IV	Requirement to take any national measures necessary to prohibit and prevent the development, production, stockpiling, acquisition or retention of biological weapons within a State's territory, under its jurisdiction, or under its control.
Article V	Undertaking to consult bilaterally and multilaterally and cooperate in solving any problems which may arise in relation to the objective, or in the application, of the BWC.
Article VI	Right to request the United Nations Security Council to investigate alleged breaches of the BWC and undertaking to cooperate in carrying out any investigation initiated by the Security Council.
Article VII	Undertaking to assist any State Party exposed to danger as a result of a violation of the BWC.
Article X	Undertaking to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and information for peaceful purposes.

[5] "Biological Weapons Convention – UNODA." United Nations, United Nations, www.un.org/disarmament/biological-weapons/

Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

The treaty forbids the development, stockpiling, manufacturing, or transfer of biological agents and toxins in "types and quantities" that have no reasoning for defensive or peaceful use. If a state possesses any agent, toxin, or delivery system for them, they have nine months from the treaty's commencement to demolish their inventories or redirect them for peaceful purposes. However, there is no BTWC implementation body, which allows for flagrant violations, as seen in the past.

Security Council – 1540 Resolution

Resolution 1540(2004) enforces binding obligations on all Nations to enact regulations to protect the propagation of nuclear, chemical, and biological weapons, as well as their delivery systems, and to formulate effective residential restraints over connected equipment to prevent illegal trade, while increasing international cooperation on the area. This resolution was adopted in April 2004.

Security Council – Resolution 2325

The Council unanimously adopted Resolution 2325 (2016), which calls on all States to enhance national anti-proliferation regimes in order to enact Resolution 1540 (2004), which aims to protect non-state actors from amassing nuclear, biological, and chemical weapons of mass destruction, and to timely report their efforts.

Public health response to biological and chemical weapons: WHO guidance (2004)

In this guide the World Health Organization (WHO) releases its instructions for government bodies in readying for a potential terror incident using biological or chemical weapons in this manual. It is mainly a health system for public citizens to acknowledge how to react under the deliberate release of biological (and chemical) weapons. However, it also details the history of biological and chemical armed conflicts, relevant international agreements, processes for seeking WHO technical guidance, the underlying principles of public health alarm response, the fundamental principles of infectious disease diagnosis, the management of patients with particular contagious exposures, and the physical control of different agents, Reconnaissance satellites which can be used to identify weapons production, maintain water and food support programs, and so on.

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

Biological Weapons Convention

One truly important attempt to counter the topic of bioterrorism as a new arms race is the Biological Weapons Convention, which has contributed importantly to the reduction of such incidents and has been signed by 183 countries.

Association for Professionals in Infection Control and Epidemiology (APIC)

Another institution contributing to the management of the topic is Association for Professionals in Infection Control and Epidemiology (APIC), which is an extensive and global concept and operation that concentrates on accelerating healthcare epidemiology internationally and preventing illness and inflammation spread. Therefore, this institution helps prevent infections, but even if they are unable to do so they find ways to moderate them, contributing to the quick resolution of the issue.

UNODC Upscales Efforts to Promote the International Legal Framework Against Biological Terrorism Amid COVID-19

With regards to the COVID-19 pandemic and the crisis it caused, in September 2020, UNODC conducted an online event called “The International Legal Framework against Biological Terrorism”, which introduced the audience to the current bioterrorism legislation. Some of the constitutional provisions that UNODC is tasked with promoting were bargained under the pretense of other international institutions and interact with the prohibition of actions of biological terrorism in maritime navigation and air transport. The International Maritime Organization (IMO) addressed the prohibition regulations of the 2005 IMO Guidelines and emphasized the importance of efficient legislation for sea navigation safety in order to prevent offences of biological terrorism at the ocean. To stigmatize crimes of biological terrorism facing global flight operations, the same legislation is required.

Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

The treaty forbids the development, stockpiling, manufacturing, or transfer of biological agents and toxins in "types and quantities" that have no reasoning for defensive or peaceful use. If a state possesses any agent, toxin, or delivery system for them, they have nine months from the treaty's commencement to demolish their inventories or redirect them for peaceful purposes. However, there is no BTWC implementation body, which allows for flagrant violations, as seen in the past.

POSSIBLE SOLUTIONS

Cooperation between member states

In order to counter general terrorism cooperation between member states is truly important, especially in the sector of exchanging information. Effective data sharing can lead to the prevention of an attack, providing governments with the essential information regarding the biological weapons policy in their countries as well as information on the individuals entering their country.

Vaccine and pharmaceutical product development

More specifically, vaccine and pharmaceutical product development is a solution which can prevent people from being infected, however this does not prevent the virus from spreading and does not ensure immediate return from when the attack takes place since such a production requires time for research and understanding of the virus and later, manufacturing.

Convention on Bioterrorism as a new arms race

Additionally, the creation of a new convention, directly connected with Bioterrorism and the military. In that way, the governments will be able to discuss more specifically on the specifically on the specific aspect of BW, and they will be aware of where the other nations stand.

Strengthening the Biological Weapon Convention

Ultimately, strengthening the Biological Weapon Convention can be crucial since currently there are many allegations of member states processioning such weapons. With a stronger legislation and a stricter policy, a huge difference could be made on the sector and the impact it can have on nations.

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