Committee: Disarmament and International Security Committee (GA1)

Topic: Developing mechanisms to address the proliferation of chemical and biological weapons in conflict zones

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Topic Introduction

As we speak, numerous armed conflicts are taking place such as the Russo-Ukrainian war, the Israel-Palestine war and the civil war in Myanmar with a few of them even going as far as using Chemical and Biological Weapons (CBWs). As Figure 1 indicates through the statistics of the casualties of conventional conflicts that took place during the period of 1800-2011, such wars are much less harmful than wars that do entertain the use of CBWs. Unconventional wars are known to wipe out whole populations with their lethal impact, and cause major environmental damages as well as promote an unstable and paralyzed international security.

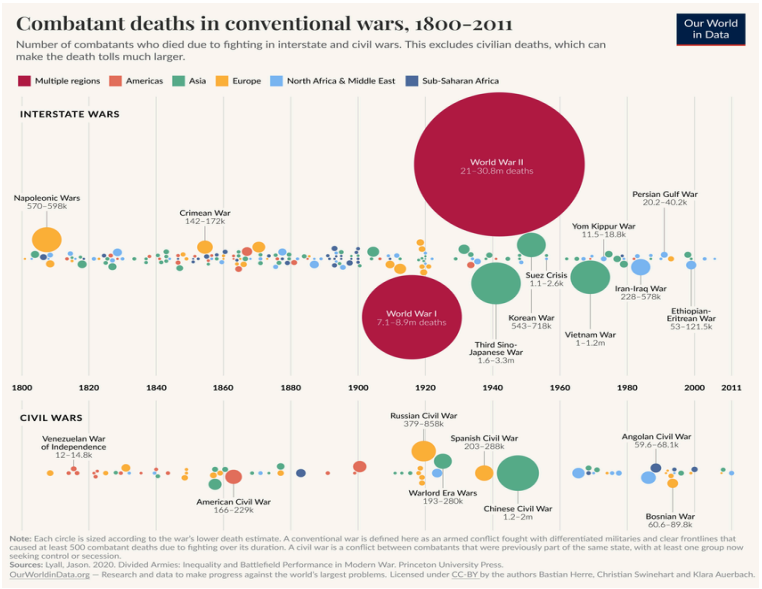

Figure 1: Combatant deaths in conventional wars, 1800-2011[1]

It is significant to note that their use is not solely limited to the government, but to non-state actors too, such as terrorists. This poses a great military threat, since when powerful, contagious and deadly weapons like CBWs, fall into the wrong hands with the wrong intentions, the consequences will inevitably be devastating.

[1] Herre, Bastian, et al. "War and Peace." *Our World in Data*, 28 Dec. 2023, ourworldindata.org/war-and-peace#:~:text=As%20the%20chart%20shows%2C%20at.

The extent of the negative impact that conventional wars have caused was recognized by international and national frameworks in the past, and there have been a number of steps taken directed to the proliferation of the use of CBWs in conflict zones that will be further explained in the following sections of this guide.

Definition of key concepts

Biological weapons

'Biological and toxin weapons are either microorganisms like viruses, 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.'[2]

Chemical Weapons

'A Chemical Weapon is a chemical used to cause intentional death or harm through its toxic properties. Munitions, devices and other equipment specifically designed to weaponize toxic chemicals also fall under the definition of chemical weapons.'[3]

Conventional-Unconventional war

A conventional war is a conflict between states or organized groups which uses traditional military forces and weapons whilst simultaneously following rules of engagement that prohibit the involvement of weapons of mass destruction such as Chemical and Biological Weapons. Whereas, an unconventional war usually involves non-state actors and does not refrain from promoting the use of calculated strategies and weapons of mass destruction for intense armed conflicts that result in overwhelming amounts of casualties.

[2] World Health Organization. "Biological Weapons." *Who.int*, World Health Organization: WHO, 4 Dec. 2019, www.who.int/health-topics/biological-weapons#tab=tab_1.

[3] "What Is a Chemical Weapon?" *OPCW*, www.opcw.org/our-work/what-chemical-weapon#:~:text=A%20 Chemical%20 Weapon%20is%20a.

Non-state actors

"Non-state actors include organizations and individuals that are not affiliated with, directed by, or funded through the government. These include corporations, private financial institutions, and NGOs, as well as paramilitary and armed resistance groups."[4]

Proliferation

"The sudden increase in the number or amount of something."[5]

Background Information

Historical Background

The use of CBWs has always existed in Ancient times in the form of poisons and toxins. Yet, one of the first recorded uses of biological warfare dates to 1347, when the Mongol forces, who were known to be strong fighters that were rarely defeated, launched corpses which were infested with the Plague, into the Black Sea port of Caffa, at a trade center. After this, a few historians assert that ships sailed from the infected city and returned to Italy, starting the Black Death and spreading it all around Europe for the next four years, killing approximately 25 billion people, in other words, about one-third of Europe's population.[6]

During World War I (July 28 1914 - November 11 1918) chemical weapons were introduced at a large scale. "By the end of the war, the Germans had produced the most poison gas with 68,000 tons, the French second with approximately 36,000 tons and the British third with approximately 25,000 tons."[7] An example of one of the most severe events was when the German army first used phosgene at the Battle of Ypres on October 19 - November 22 1914 which was a transparent chemical that caused suffocation and was generally a gas but could be converted to liquid, more lethal than

[4] ESCR. "Non-State Actors." *ESCR-Net*, 2014, www.escr-net.org/resources/non-state-actors.

[5] "Proliferation Noun - Definition, Pictures, Pronunciation and Usage Notes | Oxford Advanced American Dictionary at OxfordLearnersDictionaries.com." *Oxfordlearnersdictionaries.com*, 2024, www.oxfordlearnersdictionaries.com/definition/american_english/proliferation. Accessed 30 July 2024.

[6] Schneider, Barry. "Biological Weapon - Biological Weapons in History | Britannica." *Encyclopædia Britannica*, 2020, www.britannica.com/technology/biological-weapon/Biological-weapons-in-history.

[7] "First Usage of Poison Gas." *National WWI Museum and Memorial*, www.theworldwar.org/learn/about-wwi/spotlight-first-usage-poison-gas#:~:text=By%20the%20end%20of%20the.

chlorine. A repetition of this occurred during the Second Battle of Ypres on April 22, 1915, where Germans released more chemical weapons to their enemies. This was followed by the introduction of mustard gas, a chemical substance like phosgene, that burnt the skin and caused side effects such as vision loss and demoralization and death, again by Germans, in the summer of 1917. "It is estimated that as many as 85% of the 91,000 gas deaths in WWI were a result of phosgene or mustard gas."[8] And the individuals who did survive the CBW attacks suffered terribly in the aftermath by severe permanent psychological and health issues.

Figure 2: response to the introduction of chemical and biological weapons on the battlefield[9]

Due to the atrocities that took place in WWI, a legal framework was created, called the Geneva Protocol, signed on June 17, 1925, banning the use of CBWs in war. However, this was soon defied during World War II (September 1, 1939 - September 2 1945), since both the Axis powers (Germany, Italy and Japan) and the Allies (France, Great Britain, the US, the Soviet Union, and partially China) developed CBWs at the time. This is also illustrated by Japan's use of biological warfare in China, in its efforts to conduct experiments and attack China's civilians with pathogens such as the plague, cholera anthrax. Millions of innocent civilians, most of them being Jews, were also killed by Nazis in concentration camps by a toxic gas called Zyklon B. Similarly, during the Vietnam War (November 1,

[8] Patton, James. "Gas in the Great War." *Www.kumc.edu*, 2023, www.kumc.edu/school-of-medicine/academics/departments/history-and-philosophy-of-medicine/archives/wwi/essays/medicine/gas-in-the-great-war.html#:~:text=It%20is%20estimated%20that%20as.

[9] Cahill, Ann. "The War to End All Wars Only Led to New Conflict." *Irish Examiner*, 23 Apr. 2015, www.irishexaminer.com/opinion/commentanalysis/arid-20325484.html. Accessed 30 July 2024.

1995 - April 30 1975) the United States of America (USA) used Agent Orange to defoliate forests, causing long-term health issues.[10]

Chemical and Biological Weapons have brought lethal consequences wherever they have been introduced, but it was during the Holocaust (1941 - 1945) when they reached their peak at the attacks that the Nazis made on marginalized groups through gas chambers clouded by toxic chemicals.

The Cold War (1947 - 1991) which was an ongoing political rivalry between the Soviet Union with its satellite states and the US with its allies, saw extensive research and development in CBWs as they were favoured for their effectiveness in wiping out both armed and unarmed bodies. This era gave the opportunity to powerful Member States to expand their weapons of mass destruction and maintain enormous stockpiles of CBWs. As a result, it was said that 'the amount of chemical weapons held by these two countries was enough to destroy much of the human and animal life on Earth.'[11] To conclude any concerns for America's vulnerability, President Roosevelt authorized the creation of the US Biological Warfare programme in May 1942, which came to an end soon after on November 25 1969 by President Nixon due to its catastrophic nature.

CBW use in conflict zones has not only stemmed from the government though. Instead, attacks using such weapons have been perpetrated numerous times by non-state actors. However, one of the most lethal ones that have been undeniably imprinted in history is the nerve gas attack in the Tokyo subway, on March 20, 1995. It was carried out by five members of the spiritual cult, Aum Shinrikyo, who aimed to spark the apocalypse by releasing sarin, a deadly gas that interferes with nerves, in an underground subway in Tokyo.

[10] Ganesan, K, et al. "Chemical Warfare Agents." *Journal of Pharmacy and Bioallied Sciences*, vol. 2, no. 3, July 2010, p. 166, www.ncbi.nlm.nih.gov/pmc/articles/PMC3148621/, https://doi.org/10.4103/0975-7406.68498.

[11] "History." *OPCW*, www.opcw.org/about-us/history#:~:text=During%20the%20Cold%20War%2C%20the.

Figure 2: Tokyo subway attack, 1995[12]

Impact

Armed conflicts can be inhumane and uncontrolled. As a result, a great number of people have lost their lives to them and suffered insufferable circumstances. Yet, with unconventional wars, where the use of CBW is entertained, the impact is far greater.

In terms of short-term impacts, health decline is the most prominent one. Biological agents such as anthrax, botulinum toxin and plague can result in a great number of deaths in a short period of time and even cause epidemics.[13] Biological weapons can also be invisible to the naked eye, mimicking natural events and masking their toxic traits and therefore, have no response or friction from the public. Health issues caused in conflict zones are likely to be passed on to the next generations as well.

Similar to this was the psychological impact unconventional wars had on their survivors. These individuals were proven to be mentally tortured and drained to the point where they suffered from major psychological instability which prevented them from contributing to a united nation. Hence, creating vulnerable territories with an unsupported and uncontrolled system that lacked both an unorganised military.

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[12] "BAD: 1995 Tokyo Subway Sarin Attack | 25 Years of Crises in Review: The Good, the Bad and the Truly Ugly." *Www.linkedin.com*, www.linkedin.com/pulse/bad-1995-tokyo-subway-sarin-attack-25-years-crises-review-sapriel. Accessed 30 July 2024.

[13] "Biological Weapons." *World Health Organization*, www.who.int/westernpacific/health-topics/biological-weapons. Accessed 30 July 2024.

As for the aftermath, CBWs create air and water pollution that is absorbed by living organisms, which in turn, is consumed by humans. This puts the health and well-being of people at risk and threatens the economic stability of regions that depend on a healthy coastal environment. The sudden mass destruction of resources may also impact the international market and increase prices, since trade plays a significant role in the economy. Such financial instabilities lead to political tensions that exacerbate international security and cooperation.

Political arguments may also stem from a disagreement about abusing one's power to harm a territory and its population. Meaning that vulnerable Member States might refuse to allow others to indicate their superiority through threats made by the showcasing of their weapons and will to use them against others which will inevitably result in either verbal or armed conflicts. For instance, during the Cold War, when the US had great power over CBWs, the governments of multiple Member States voiced their disapproval of this which sparked rivalries and intensified the conflict. As a result, this brought distrust and instability between the alliances, which promoted miscommunication and isolation.

1347	Launch of corpses infested with the Plague in the Black Sea by the port of Caffa by the Mongol forces
July 28 1914	Start of WWI, chemical weapons were introduced at a large scale
October 19 - November 22 1914	German army first used phosgene at the Battle of Ypres
April 22 1915	Germans launched even more chemical weapons at their enemies at the Second Battle of Ypres
June - August 1917	Introduction of mustard gas by Germans
November 11 1918	End of WWI

June 17 1925	The Geneva Protocol was signed, banning the use of chemical weapons in war
September 1 1939	Start of WWII, both Axis powers and allies defied the Geneva Protocol
May 1942	President Roosevelt authorized the creation of the US Biological Warfare programme
1941 - 1945	Start of Holocaust, biological weapons reached their peak as the Nazis were frequently using them in gas chambers
September 2 1945	End of WWII
1947 - 1991	Cold war, extensive research and development on chemical weapons
March 20 1995	Nerve gas attack in Tokyo subway, carried out by five members of Aum Shinrikyo
November 1 1955	Start of Vietnam War, the USA defoliated forests by using Agent Orange and caused major healthcare issues
November 35 1969	President Nixon put an end to the US Biological Warfare programme
April 10 1972	The BWC opened for signature
March 26 1975	The BWC came into force
April 30 1975	End of Vietnam War
January 13 1993	The CWC opened for signature
April 29 1997	The CWC came into force
December 1997	Russian Federation joined the CWC

July 11 2007	Albania became the first country to destroy all of its chemical weapons

Major countries/ organizations and alliances

Albania

In the 20th century, Albania underwent 50 years of political isolation, where it stored huge stockpiles of CBWs in response to continuous threats to its security. However, a great percentage of these weapons stemmed from illegal activities such as theft, which increased crime rates in Albania. Also, ammunition was protected in inadequate and flammable storehouses that gave way to numerous explosions. Overall, Albania's CBWs proved to be much more disadvantageous than advantageous.

Therefore, with Albania's obligations under the multilateral disarmament treaty the Chemical Weapons Convention (CWC), it was the first country to destroy all of its chemical weapons on July 11, 2007, by eliminating in total 16,678 kilograms of chemical warfare agent.[14]

Russian Federation

The Russian Federation has signed the CWC since 1993 and has joined the treaty since December 1997, declaring a 41,000-ton arsenal, the world's largest arsenal.[15] Yet, it has postponed the date of destruction for its chemical weapons several times, like the US. This exemplifies that although such treaties do exist and have proved beneficial at times, they do lack transparency.

At the moment, the Russian Federation is at war with Ukraine and has been publicly accused by the US State Department of deploying chemical weapons as a 'method of warfare,' violating international

[14] "Albania the First Country to Destroy All Its Chemical Weapons." *OPCW*, 2022, www.opcw.org/media-centre/news/2007/07/albania-first-country-destroy-all-its-chemical-weapons.

[15] Schumann, Anna. "Fact Sheet: Chemical Weapons and Their Destruction." *Center for Arms Control and Non-Proliferation*, 4 Feb. 2014, armscontrolcenter.org/fact-sheet-chemical-weapons-and-their-destruction/#:~:text=The%20Russian%20Federation%20signed%20the. Accessed 30 July 2024.

legal frameworks. State Department officials claimed that 'Russia used the choking agent chloropicrin to win battlefield gains over Ukraine.'[16]

World Health Organization (WHO)

Although WHO focuses on public health, it also contributes to limiting the use of weapons such as chemical and biological weapons as well as how to respond most effectively to their impact. WHO is a United Nations (UN) organisation, but works closely with the Organization for the Prohibition of Chemical Weapons (OPCW). It has created training and reconciliation facilities as well as Emergency Medical Teams (EMTs) that align with the Emergency Response Framework (ERF). WHO has ensured that there is international cooperation between the UN's Member States and a global awareness on how to face attacks.

Previous attempts to solve the issue

The Biological Weapons Convention (BWC)

The BWC was the first multilateral disarmament treaty that prohibited the use of biological weapons and toxins in conflict zones. It consists of only 15 articles and opened for signature on April 10, 1972, and came into force on March 26 1975. It is close to reaching universal membership, with 185 States Parties and 4 Signatory States.[17] The states that have signed the BWC are obligated to never use or store biological weapons. A point that is highly unlikely and unrealistic. Although this convention has received a lot of praise, it does not necessarily have much control over its participants.

Chemical Weapons Convention (CWC)

The CWC is similar to the BWC but instead, it concerns chemical weapons. All Member States who have signed the CWC are banned from using chemical weapons and are given a specific deadline until which they are required to destroy their chemical weapons stock. It opened for signature on January 13, 1993, and came into force on April 29 1997. The OPCW authorizes this convention, with

[16] Murphy, Matt. "Russia Using Chemical Choking Agents in Ukraine, US Says." *Www.bbc.com*, 2 May 2024, www.bbc.com/news/world-europe-68941220.

[17] *Biological Weapons Convention – UNODA*. disarmament.unoda.org/biological-weapons/#:~:text=The%20 Biological%20 Weapons%20 Convention%20.

its headquarters being located in the Hague with around 500 employees.[18] The CWC does offer an organized legal system that maintains the order, but its policies are quite flexible and so have been violated in the past.

Geneva Protocol 1925

The Geneva Protocol was the result of public outrage, after the horrific events they had to go through during WWI. It prohibited the use of chemical weapons in warfare, becoming grounds for the CWC to build on. Yet, it proved to be a complete failure with the clash of WWII, where Member States chose to defy it and both stock and use chemical weapons through means such as torture rooms, gas chambers and armed attacks.

Possible solutions

International cooperation

Creation of Global Networks by specialized bodies that provide intelligence sharing between alliances, in order for all Member States to be synched on the progress of the use of CBWs and be able to take secure and educated measures on how to protect their national security.

Additionally, activating united task forces that consist of experts from all around the world that work together to track, explore and respond to threats of biochemical and chemical weapons in conflict zones.

Combined efforts from Member States from all around the world could be highly advantageous for the maintenance of a just and organized international security that prioritizes all nations equally and controls such a destructive situation. However, it is significant to note that not all countries will be open to cooperating and forming alliances with each other, especially ones with historical rivalry and distinct involvement in this matter.

Use of technology

Use of advanced technology or the creation of a warning equipment that aims to detect and monitor any unusual activity that indicates the use of CBWs, and immediately alarms official authorities such

[18] "The Chemical Weapons Convention (CWC) at a Glance | Arms Control Association." *Www.armscontrol.org*, www.armscontrol.org/factsheets/cwcglance#:~:text=The%20 convention%20 opened%20 for%20 signature.

as a new UN body that is overlooked by the World Health Organization (WHO) to take immediate measures as well as record the event for future analysis and reports. Also, take cybersecurity measures to prevent any leak of information on CBWs, and protect it from cyber attacks.

This is an effective and plausible way to take advantage of technological innovations and what they offer. Such programs will be consistent and fairly accurate, as well as useful in protecting civilians from unnecessary harm. However, who will overlook and ensure the system's right and legal use should be taken into consideration (perhaps a UN supervisory body).

Capacity Building and Training

Creation of specialised international training facilities to train law enforcement, military and emergency staff, to respond to the use of chemical and biochemical weapons, responsibly, professionally, efficiently and effectively. And expand on WHO's already present training grounds. Also, the creation of research facilities for research on chemical and biochemical weapons, to understand them, familiarize them and find solutions on how to face them.

The location of these facilities should be examined, as it is critical for the environment they are surrounded by to be secure and reliable.

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C6A59276/S1049023X00030995a.pdf/lessons-learned-from-the-tokyo-subway-sarin-attack.pdf, https://doi.org/10.1017/s1049023x00030995.

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