

## **Biological Warfare**

Biological warfare is the deliberate use of biological weapons to kill or incapacitate humans, animals, or plants as an act of war.(M. Balali-Mood et al.,2014). Biological weapons are microorganisms like virus, bacteria, fungi, or other toxins that are produced and released deliberately to cause disease and death in humans, animals or plants. With exceptional developments in the field of biotechnology and genetic engineering in the recent decades, the scope of biological warfares is higher today. The use of biological agents is a critical problem, and the risk of using these as weapons in a bioterrorist attack is increasing. (WHO, n.d.).

The concept of biological warfare sounds even more appealing due to their ease of production, greater availability. They cannot be easily detected by routine security systems and are unique in their invisibility and delayed effects. A bio-warfare attack not just causes sickness and death in a large number of victims, but it also creates fear, panic, and paralyzing uncertainty. Disruption of social and economic activity, breakdown of government authority, and the impairment of military responses are some of the major consequences of bio-warfares. (DaSilva, E. J., n.d.).

The history of biological warfare dates back to 600 BC where Solon used the purgative herb hellebore during the siege of Krissa. Later, in 1346, Tartar forces are reported to have catapulted bodies of plague victims over the city wall of Caffa. Poisoning water well with human bodies, mixing wine with blood of leprosy patients, distributing blankets from smallpox patients are some of the notable bio-Warfare incidents that took place in early days. (Riedel, 2004)

The German army used Anthrax and Glanders attempting to infect animals during the First World War. These terrible incidents resulted in most countries signing the 1925 Geneva Protocol banning the use of biological and chemical weapons in war. However, several countries like Canada, France, Britain, Italy among others that were parties to the Geneva protocol began to develop biological weapons soon after its ratification. (Riedel, 2004; Schneider, 2017).

Japan was proved to be violating the treaty's ban when it used biological weapons against Allied forces in China between 1937 and 1945. (Schneider, 2017). During World War 2, Japan used plague, Anthrax and other diseases. Although there is no documented evidence, several other countries such as UK, USSR, Germany had experimented with and developed biological weapon programs. (Riedel, 2004; Schneider, 2017).

In the Cold War era, biological weapons played an important role. Both the Soviet Union and the United States embarked on large-scale biological warfare R&D and weapons production programs. (Schneider, 2017). The Korean war, the Gulf war were some of the important events post WW2 where biological weapons played a significant role. (DaSilva, E. J., n.d.; Riedel, 2004).

The Biological Weapons Convention (BWC), the first multilateral disarmament treaty banning the development, production and stockpiling of an entire category of weapons of mass destruction, was opened for signature on 10 April 1972. The BWC entered into force on 26 March 1975. (United Nations, n.d.). Despite the agreement, several of the signatory nations of the BWC outlawed the convention. These events clearly demonstrate the ineffectiveness of the convention (Riedel, 2004; Schneider, 2017).

It is interesting to take note of the current covid-19 crisis that has many accusations of biological warfare. Due to the fact that Wuhan is home to an advanced virology lab, there are a number of theories which state that China had deliberately unleashed an attack. This has hyped even more when US President Donald Trump has appeared to undercut his own intelligence agencies by suggesting he has seen evidence Corona virus originated in a Chinese laboratory. However, China has rejected the lab theory and criticized the US response to Covid-19. (2020).

Bio-warfare attacks have more scope today than before. The advancements pose a huge threat to the current world where bio-weapons can be used to sabotage. It is vital for us to become familiar with epidemiology and control measures to respond appropriately if an outbreak occurs. The medical community must focus on improving its capability of recognition of this threat. (Riedel, 2004). Implementing strong norms that eradicate biological weapons and prevent the further proliferation is an important aspect to consider .While the BWC is prepared to assist nations that have been targets of biological weapons, it is important for us to be more prepared in order to tackle the challenges of bio-warfare as it is predicted that world war 3 might be biological war.

## References:

1. Balali-Mood, M., Moshiri, M., & Etemad, L. (2014, April 14). Bio Warfare and Terrorism: Toxins and Other Mid-Spectrum Agents. Retrieved August 10, 2020, from <https://www.sciencedirect.com/science/article/pii/B9780123864543005893>
2. Biological Weapons – UNODA. (n.d.). Retrieved August 10, 2020, from <https://www.un.org/disarmament/wmd/bio/>
3. Biological weapons. (n.d.). Retrieved August 10, 2020, from <https://www.who.int/health-topics/biological-weapons>
4. Coronavirus: Trump stands by China lab origin theory for virus. (2020, May 01). Retrieved August 10, 2020, from <https://www.bbc.com/news/world-us-canada-52496098>
5. DaSilva, E. J. (n.d.). Biological warfare, bioterrorism, biodefence and the biological and toxin weapons convention. Retrieved August 10, 2020, from <http://www.ejbiotechnology.info/index.php/ejbiotechnology/article/view/v2n3-2/827>
6. Riedel, S. (2004, October). Biological warfare and bioterrorism: A historical review. Retrieved August 10, 2020, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1200679/>
7. Schneider, B. (2017, November 27). Biological weapon. Retrieved August 10, 2020, from <https://www.britannica.com/technology/biological-weapon>