

Biological Warfare A Weapons Of Mass Destruction

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ABSTRACT:

Biological warfare is the intentional use of microorganisms and toxins to humans or live stocks. Bio war attacks aren't new to our ears however passed in earlier period to empower countries and are still prevailing to defeat several countries.

INTRODUCTION:

“Weapons of mass destruction are the greatest threat to the life on earth. Biological weapons are typically known as the poor man's atom bomb.”- William shawcross

Biological warfare: biological attack is additionally called as germ warfare and it's defined as the use of biological toxins or infectious agents like microorganisms, viruses and fungi with the intent to kill or incapacitate humans, animals or plants as an act of war. Bio war weapons that is used by several countries in the name of terrorism which causes great destruction among individuals, people of the affected countries goes through the hardships and sufferings due to the contagious diseases and microbial attacks.

WHY BLOWAR?:

Aim of subjugation and ruling different countries.

- It is used as a means of terrorism.
- To create fear and chaos among individual.
- For increasing the financial/economical status of their native country by attacking different countries by the means of microorganisms for which they need medicines to cure.

- To destroy countries by attacking humans, animals and agriculture that defines a country's prosperity.

BIOLOGICAL AGENTS/WEAPONS:

Anthrax (*Bacillus anthracis*):

Anthrax are excellent biological agents as they can be discharged without being detected. The microscopic spores is used as powders & sprays or is mixed in food and water.

Plague(*Yersinia pestis*):

Plague is an infection that may affect humans and animals. The plague microorganism, *Yersinia pestis* is sprayed to have an effect on the people from an airplane or maybe blown by a giant fan in a crowded place. Hence, it's used as a biowar weapon. This microorganism spreads quickly throughout the air.

Tularemia(*Francisella tularensis*):

Tularemia is an infection that may have an adverse impact on both humans and animals. It is considered as an important biological attack agent because it infects many people if aerosol route is used as a medium. They also prove to be extremely infectious as it causes severe health problems and death.

Small pox (*variola major*):

Small pox was the most notorious diseases in ancient times and was a good bio arm because it was extremely infectious when released into the air and there was no cure for this disease. This disease was quite ordinarily used as war weapon in ancient times to conquer the control of a country or region

Ricin:

It is a plant protein poisonous substance obtained from the beans of the castor plant. Ricin is used as a bioarm as it is extremely poisonous to cells and

inhibits protein synthesis in our body. If inhaled it causes respiratory and lungs issues.

Botulinum toxin:

It is the foremost deadly toxins known. It is used as a bioarm as a result of it's Easy way to manufacture, weaponize and because of its extreme efficiency and deadliness.

Ebola virus: it is a deadly virus and is used as biological weapons because it causes high mortality rate and causes severe symptoms within the victims.

BIOWARFARE HISTORY:

Bio-warfare started since antiquity. It's initial implementation was during the sixth century BC, when the assyrians poisoned enemy wells with a fungus that destroyed their enemies, then several countries started developing their own bioarm programs to cause hassle for the people and countries.

Real life incidents:

➤ **Ancient times:**

- In 400 BC - scythian archers dipped their arrows in decomposing bodies or blood mixed with manure and used it against their enemies.
- In 12th century AD - during the battle of Tortona, barbarossa used the bodies of dead and decomposing soldiers to poison Wells.
- In 14th century AD – The offensive Tata forces used plague-infected corpses into the town so as to attack their enemy forces. This attack was once more repeated in 1710.
- In 17th century AD – small pox and rinderpest was also used as a bioarm to conquer countries.
- In 18th century AD – during the French and Indian war, britishers under the direction of sir Jeffery Anherst gave blankets that

had been utilized by small pox victims to the native Americans to spread the disease.

➤ **Modern times:**

→ During world war 1 – The German army developed anthrax, glanders, cholera and a wheat fungus to use as biological weapons.

- The Germans also spread plague in St. Petersburg, Russia.
- They also spread infected mules

with glanders in mesopotamia and attempted to do the same with the horses of the french cavalry.

→ In 1925 – THE GENEVA PROTOCOL was signed by 108 nations. This was the first multilateral agreement that prohibited chemical & biological agents.

→ During 2nd world war – Japanese forces formed a secret biologic attack research facility in manchuria that carried human experiments on prisoners.

- They exposed more than 3000 victims to plague, anthrax, syphilis and other agents in an attempt to develop and observe diseases.

→ In 1979 – anthrax was released accidentally from a weapon facility in Sverdlovsk, which killed about 66 individuals.

BIOLOGICAL WARFARE TODAY:

George W. Bush said “Bioterrorism is a threat to our country. It's a real threat to every nation that loves freedom. Terrorist groups look for biological weapons; we all know some rogue states have already got them. It's important that we confront these real threats to our country and prepare for future emergencies.”

Biowar attacks were not only limited to ancient times but still prevailing in the present times. Biowar attacks in the recent times are as follows:

- o In 1985 - Iraq developed a biological weapon producing anthrax, botulinum toxin, and aflatoxin. During Operation Desert Storm, the coalition of allied forces was threatened by chemical and biological agents. After the persian gulf War, Iraq disclosed that it had bombs, Scud missiles, 122-mm rockets, and artillery shells filled with botulinum toxin, anthrax,

and aflatoxin. They also had spray tanks fitted to an aircraft that could distribute agents over a specific target.

- o In September and October of 1984 - 751 people were infected with salmonella, an agent that causes food poisoning, when followers of the Bhagwan Shree Rajneesh contaminated salad bars of 10 restaurants in order to control the local elections in the small town of Oregon.

- o In 1994 - A Japanese force of the AumShinrikyo attempted an aerosolized (sprayed into the air) release of anthrax from the tops of buildings in Tokyo.

- o In 1995- Two individuals of a Minnesota militia group were suspected possessing ricin, which they had produced themselves for retaliation against local government officials.

- o In 1996 - An Ohio man attempted to obtain bubonic plague cultures through the mail.

- o In 2001 - anthrax was delivered by mail to U.S. media and government offices. There were five deaths as a result.

- o In December 2002 - six terrorist suspects were arrested in Manchester, England as their apartment turned out to be a "ricin laboratory." Among them was a 27-year-old chemist who was producing the toxin. Later, on Jan. 5, 2003, British police raided 2 residences around London and found traces of ricin, which led to an investigation of a possible plan to attack the Russian embassy with the toxin; several arrests were made.

- o On Feb. 3, 2004 - three U.S. Senate office buildings were closed once the toxin ricin was found in a mailroom that serves Senate majority leader Bill Frist's workplace.

PREVENTIVE MEASURES:

- There is a famous saying “prevention is better than cure” which most of us are aware of. Hence, preventive measures are necessary for protecting the country from biological warfare even though there is no suspicion of it. Some of the preventive measures are as follows:

- Masks: Masks such as military gas mask or high-efficiency particulate air (HEPA) filter masks are used to prevent Biological warfare particles delivered through the air.

- Clothing: Most biological agents in the air don't enter into unbroken skin, and few organisms stick to skin or clothes. After an aerosol attack, removal of clothing is important as it eliminates majority of

microorganisms. we can have a bath with soap and water which destroys 99% of the microorganisms that may be left on the victim's skin.

- Medical protection: Doctors and nurses while treating the patients use latex gloves and wear gowns and masks with protective eye shields. Victims should be isolated in private rooms while taking up the treatment.
- Antibiotics: Victims of biological warfare can use antibiotics orally (pills) or through an IV, before the biological agent is identified.
- Vaccinations: protective vaccines (given as shots) are available for anthrax, Q fever, yellow fever, smallpox and ricin. Therefore, biowar attacks can be prevented by using these preventive vaccines.

CONCLUSION:

Biological warfare was used as a weapon in past when technology did not even exist. Now, in this 21st century where technology has developed immensely it is more easy and efficient to attack people by the means of micro organisms . The possibilities of these attacks are more and can be more dangerous than before. Even though biowar is banned terrorists, psychos, enemies tend to use this way of attack to affect countries as it leads to the destruction of resources(material and human resources) of a nation in a large amount. Therefore, proper preventive and effective measures should be taken by both government and the natives of the country against biological warfare.

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