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# An Interpretation on the Usage of the Most Deadly Weapons in the World and It's Consequences on the Socio -Economic - Political Sector

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**ABSTRACT:** Biological and chemical warfare is emerging as a serious threat in the 21<sup>st</sup> century , we had a history of chemical and biological weapons being used across the world which resulted in the death of millions of people because of biological weapons and 100 ,000 death due to chemical weapons . Biological weapons are considered to be the most deadly among all the other weapons which are weapons of mass destruction , there are variety of biological and chemical weapons which have their own affect , in spite of the conventions and state parties agreed to the convention , we see a rapid growth of chemical and biological weapons in countries like North Korea , China , and its use even in Syria which is a matter of concern . These weapons also have an effect on the environment resulting in loss of biodiversity ,health hazard which has an affect on the future generation , causing nervous system disorder , eye blind , nose bleeding etc Plague and smallpox have been widely spread due to biological weapons in the world , chemical weapons like choking agents has been used most to kill people .

**KEYWORDS :** Biological , chemical weapons , mass destruction , plague , small pox ,choking agents , conventions , threat

## I. INTRODUCTION

Biological and Chemical weapons has emerged as a major concern in the world. We see a rapid rise in bio-terrorism , biological warfare and weapons along with chemical weapons rise in many countries .Bio Terrorism can be defined as the use of viruses , bacteria or germs to kill mass population which is spread from one country to another so referred to as germ warfare . Many biological agents have been recognised and it is the terrorist groups who modify the biological weapon and increase its potential .Bio terrorism is also spread through food supply , there are a number of bacteria that can infect the food supply which incorporates Salmonella species , Clostridium which is the deadliest of all , Shigella and Staphylococcal Enterotoxin B .Clostridium is the most widely used toxin for bioterrorism which caused Botulism . Biological attack both state sponsored and international area real threat , despite many treaties signed for prohibiting the use of biological weapons . The Indian army is trained to prepare for chemical , nuclear ,biological , radiological attacks .



The two main Biological agents are Bacteria, single cell organized that causes disease like anthrax , Brucellosis , tularaemia , plague .The other agent is Rickettsiae: Micro organism that resemble bacteria , they are intracellular parasites that reproduce inside cell . Typhus and Q fever are examples of diseases caused by Rickettsia .On the other hand chemical weapons are toxic agents that are used to kill or injure enemies .In modern warfare chemical weapons were first used during the world war 1 , gas warfare inflicted a population of more than one million and killed around 90,000 . It was also used in the Iran-Iraq war(1980-88) , the second world war , the Syrian civil war , the United States and the Soviet Union during the cold war .Biological weapons and Chemical weapons are considered as weapons of mass destruction . It was banned to use chemical weapons in the war , however many militant organizations have acquired chemical weapons to attack their enemies and even some small countries to make themselves powerful . Chemical weapons are chemical agents available in all the three forms solid , liquid and gas and these toxins have a direct affect on humans , plants and animals , they damage when inhaled , absorbed through skin or put in food or drink .Chemical agents become weapons when they are paced into land mines , aerial bombs , mortar shells , missile warheads , artillery shells , spray tanks and many others , not every poisonous substance can be used as a chemical weapons . Moreover the chemical must be able to resist the heat developed when delivered in a bomb , it should also be resist to water and oxygen in the atmosphere so that its effect is long lasting . Choking agents was first applied by the Germany army , the first biological weapon recorded was in 1347 which resulted in the spread of plague , which spread in Europe for 4 years and killed 25 million people also known as Black Death pandemic .

## II. RESEARCH METHODOLOGY

For the purpose of this exploration , I have used a amalgamation of two of the archetypical social sciences research tools application –as they are authentic and brilliant method to assemble statistics from multiple appellants in an methodical and convenient way . Question were asked to the common youth , army people, soldiers ,survey , interviews –consisting of several interrogation which were dispersed among representative of each contender group .

### Objective of the Research Paper

The main areas of exploration in this paper incorporates

- 1.What are bio warfare, biological weapons and chemical weapons
2. What are the different types of biological and chemical weapons
- 3.History and uses of these weapons
4. The affects of these weapons of human , animals ,plants and environment

## III. LITERATURE REVIEW

In 1710 the Russian army used plague – infested corpses over the city of Estonia .In 1763 British troops blockage Pittsburgh , during the time of Pontiac's rebellion , they infected blanks with smallpox and passed to the Indians the virus causing epidemic . During the world war 1 , Germany initiated a crime program by infecting the horses and cattle owned by allied armies by both Eastern and Western fronts . There were reports of infectious agent to used for glanders. German agents infiltrated US and secretly affected animals earlier to their shipment across the Atlantic in assist of Allied Forces . In 1915 there was an attempt made by German to spread plague in St Petersburg to weaken Russian resistance . From 1937 and 1945 Japan used Biological weapon against China but also experimental and killed more than 3000 humans .It also experimented Anthrax , small pox , yellow fever , hepatitis , cholera gas , tularaemia , bubonic plague , gangrene and many others .China and Japan both the countries have research and development programs on Biological weapons during second world war , United States also undertook such research and along with UK , Soviet Union and Germany had similar development programs , but only Japan used it was the evidence . During the cold war era both Soviet Union and United states as well as their allies did research and development on Biological weapons .Today , only a few countries have ongoing biological weapons programs .Al Qaeda operatives used biological weapons like Anthrax in Afghanistan laboratory before send to US ,which killed 5 people and 22 were admitted in the hospital .From April 1990 to July 1995 , The AUM Shinrikyo used both Chemical and Biological weapons to target Japan. During the first world war , German used chlorine gas using thousands of cylinders a 6 km front at Ypres , Belgium creating a windborne cloud which gave French and Algerians time and both of them learnt the new techniques of how to use choking agents such as Phosgene , Chlorine , Chloropicrin, diphosgene and ethyldichlorasine and Perfluoroisoboxylene and launched many attacks which killed almost 80% of the people by chemical arms in the world war 1 . Blister agents were also developed during world war 1 , it like a liquid it can burn the skin , eyes , windpipe and lungs , some of the modern blister agents include nitrogen , lewisite , sulphur mustard , phosgene oxime etc .



Blood agents like hydrogen cyanide or cyanogenoxide , nerve agents , the most important weapons contain nerve agents which affect the nervous system . In mid 1930s German produced Tabun GA that is a nerve agent during the world war II Sarin GB was produced in 1938 and Soman GD was introduced in 1944 , later on America and Soviet Union also produced these and other nerve agents .

### III. FINDINGS


#### A study on the different Biological agents and the disease caused

Biological agents	Disease caused
Bacillus anthracis	Anthrax
Burkholderia mallei	Glanders
Burkholderiapseudomallei	Melioidosis
Variola major	Small box
Coxiella burnetii	Q fever
Chlamydia psittaci	Psitacosis
Staphylococcal enterotoxin B	Food poisoning
Rickettsia prowazekii	Epidemic Typhus
Yersinia pestis	Plague
Ricinus communis (castor beans)	Ricin Toxin Poisoning
Brucella species	Brucellosis
Vibrio cholerae	Cholera
Salmonella species, Escherichia coli O157:H7, Shigella	Food Poisoning
Cryptosporidium parvum	Cryptosporidiosis
Clostridium botulinum toxin	Botulism
Alphaviruses (for example, Venezuelan equine encephalitis, eastern equine encephalitis, western equine encephalitis) and flaviviruses (for example, West Nile encephalitis, Saint Louis encephalitis, dengue fever)	Viral encephalitis
Mycobacterium tuberculosis	MDR TB and XDR TB
Francisellatularensis	Tularemia
Influenza Virus	Influenza
Epsilon Virus of Clostridium perfringens	Food Poisoning
Filoviruses (for example, Ebola, Marburg)and arenaviruses (for example, Lassa,Machupo)	Viral Hemorrhagic Fever




## FACTS ABOUT plague


Plague is an infectious disease that can become severe if left untreated. If diagnosed early, plague can be cured with antibiotics and supportive care.




Plague is **caused by a bacteria** usually found in small mammals and their fleas




People infected with plague usually have "flu-like" **symptoms** within 1-7 days of contact



Early **diagnosis and treatment** are essential - the fatality rate is 30-100% if left untreated

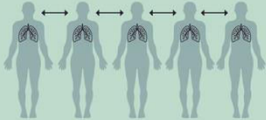


**Bubonic**



The most common type of plague affects the lymph nodes. It can be severe, but there is no human to human transmission.

**Pneumonic**




The deadliest and most rapid form of plague occurs when it reaches the lungs. It can be transmitted person to person via droplets in the air.


**Middle ages** ▶▶▶▶

Plague, known as the "Black Death" in 1400s, caused an estimated... **50 million deaths in Europe**


**Modern era** ▶▶▶▶

Between 2010 - 2015, 3248 people were infected with plague worldwide... **584 died**





**Plague is most common in** Madagascar, Democratic Republic of the Congo and Peru. However, the potential plague natural foci are distributed worldwide.



**World Health Organization**  
October 2017

**Chemical warfare agents and their types**

Chemicals Agents	Type
Nerve agents	sarin, soman, cyclohexylsarin, tabun, VX
Vesicating or blistering agents	mustards, lewisite
Choking agents or lung toxicants	chlorine, phosgene, diphosgene
Incapacitating agents	anticholinergic compounds
Lacrimating or riot control agents	pepper gas, chloroacetophenone, CS
Vomiting agents	adamsite

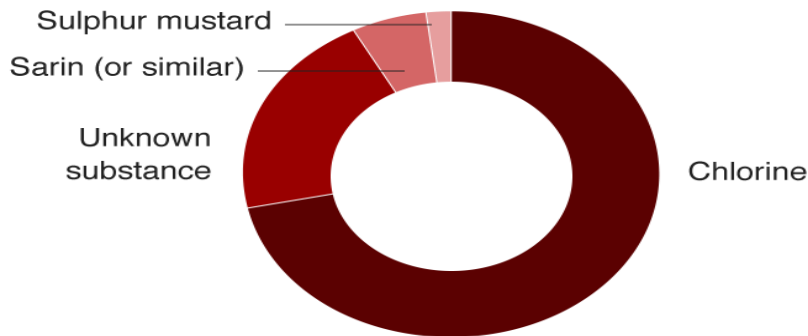


**Chemical weapons and their affects**

Chemical weapons	Affects
VX	transmission of nerve impulses
Sarin	muscles paralyse gradually, the water from the nose and eyes starts falling and suddenly people may die.
Tabun	Affects the nervous system
Mustard Gas	Eyes will swell, tear and possibly go blind a few hours after exposure , burns for few hours, large blisters appear and cause severe scarring and pain
Phosgene Gas	breathing problem, suffocation, water comes out from the nose and severe cough
Chlorine	Burns the eyes , windpipe , lungs

**Chlorine was the most-reported chemical**

Number of times a toxic substance reported used 2014-18



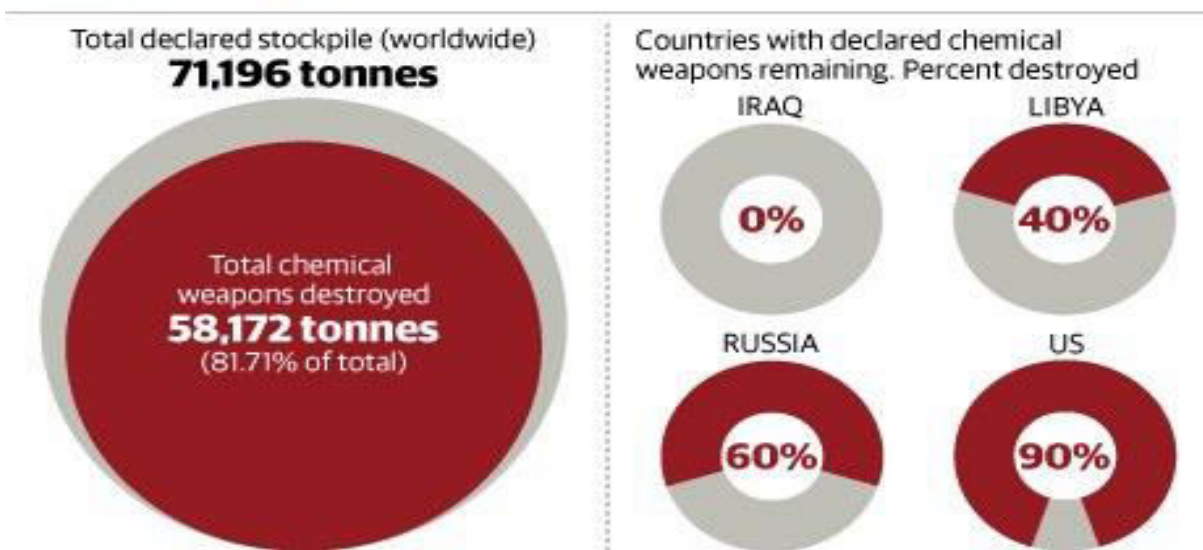
Note: Data from 106 incidents in which evidence suggests a chemical weapon was used

Source: BBC Panorama and BBC Arabic research



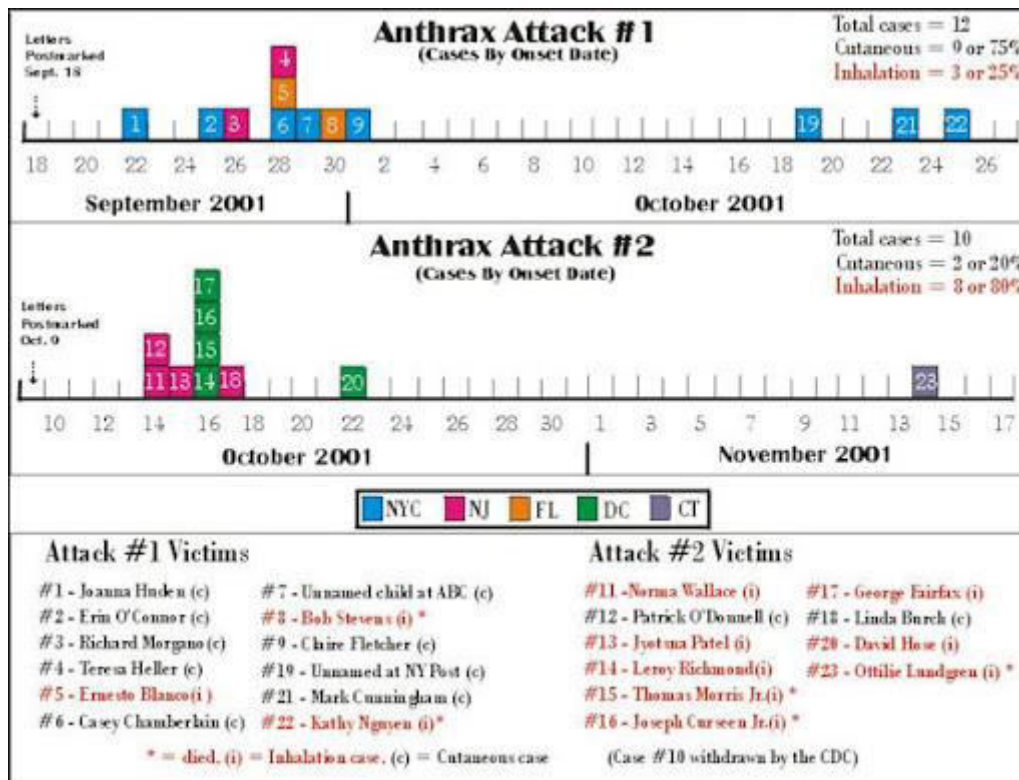
Today there are 16 countries in the world who have biological weapons which include Japan , US , UK, North Korea, South Africa , Syria , Russia , Germany , France ,Canada , China , Libya , Cuba , Israel , Iran and Iraq . Russia , Egypt , Syria and Iran has the most number of Chemical weapons

**Chemical weapons**





Biological weapons are the most dangerous weapons of mass destruction, they have an effect on the humans, environment including air, water, soil, affects the fertility of soil, livestock and crops, Biological weapons have a wide variety of germs that contaminate the air for example Fungi is a common, food contamination which can result in disease and can spread from one person to another, Biological agents can also be mixed in the wells, rivers and lakes which can affect a huge population who have access to that water, there can also result in the extinction of species, biological weapons not only affect the indigenous plants and animals, it can reach indirectly to the wider plants and animals community and result in catastrophic affecting the biodiversity, there are some deadly viruses which have an impact on animals and plants along with humans. In fact biological weapons can also end the reproductive ability of women or even if some babies are born, they have inherited those diseases from their mother, which affects the life of the future generation also. Biological weapons can also be used to destroy crop production resulting in food crisis, genetic disorder and many other effects. In 1972 Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction also referred to as BWC. Under the BWC, the development of delivery systems and the delivery of biological warfare technology or knowledge to other countries are also banned. It further requires the parties to the BWC to destruct stockpiles, transport systems, and manufacture equipment within 9 months of ratifying the treaty, the treaty was signed by 103 nations. Around 500 million people in the world have died due to Biological warfare, thousands of deaths were caused by the biological weapons made by the Japanese during the second world war to attack China, the release of Pathogens and toxins.



Chemical weapons have the first effect on Human body and on the environment causing air pollution and many other environment hazards like and destruction, salinization, nerve agents which has a drastic effect on the health of humans, leaving them in a state of disorder, the effects caused by chemical weapons on their muscles, nerves have an effect on the next generation also, the babies are born with disorder or asthma problem, heart diseases. Syria has experienced use of chemical weapons. The Chemical Weapons Convention (CWC) is a multinational treaty that prohibits chemical weapons and requires their destruction within a specified period of time. The treaty is of unlimited duration and is far more comprehensive than the 1925 Geneva Protocol, which outlaws the use but not the possession of chemical weapons, it came into force in 1997, 193 state members signed the agreement. There have been 100,000 deaths due to chemical weapons and more than 1 million casualties in the world.



However we cannot say that today the world is free from chemical and biological weapons as many countries didn't sign this agreement and still continues to produce biological and chemical weapons ,where many consider COVID-19 as a biological weapon.

## V. CONCLUSION

Even after the agreement and convention on Biological weapons and chemical weapons , we see a rise in bioterrorism and bio warfare across the world . North Korea has emerged as a country which has deadly biological and chemical programmes . Many countries have research and development programme in this field ,since the time of world war I we see these biological and chemical weapons being used started by the Germans and escalated by Japan . Today no country is directly using biological weapons or chemical weapons , there are more dangerous and results in mass destruction .It is resulted in the death of millions of people and caused harm to the environment and in many countries the affect it till today after centuries . There are variety of chemical and Biological weapons which have their individual affect on the plants , animals and human beings .

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