



An appraisal of the use of nuclear, biological, bacteriological and chemical weapons in war times: The way forward

Ethelbert Obiorah Ezeh

Lecturer, Faculty of Law Madonna University, Anambra State, Nigeria

Abstract

Carl von Clausewitz defines war as “an act of violence intended to compel our opponent fulfill our will”. Wars are unavoidable in society as there is bound to be conflict as long as there is more than one person in a place. The aftermath of World War II and the evolution of weapons of mass destruction have made this area of warfare an important and debatable topic. Weapons of mass destruction include but is not limited to; Nuclear weapon which is a device designed to release energy in an explosive manner as a result of nuclear fusion, Biological weapons which has a similar meaning with Bacteriological weapons are agents which deliberately releases virus, bacteria, fungi or their toxins which in turns causes disease and death in biological organisms and lastly Chemical weapons which is a canister containing a poisonous substance. Thesis critically analyses the use of such weapons in war fares alongside its pro’s and con’s. The methodology used in carrying out this research is the doctrinal method which gives a detailed analysis on the use of weapons of mass destruction in warfare’s. My research findings indicate that there are pro’s and Con’s of the use of such weapons and that there is a ban on the use of such weapons. I also recommended the use of such weapons only in deserving or very serious cases and rationale for this recommendation in this paper.

Keywords: nuclear, biological, bacteriological and chemical, weapons

Introduction

On 6th and 9th of August, 1945, the united states detonated two nuclear weapons over the Japanese cities of Hiroshima and Nagasaki respectively, killing over 120,000 people in total but also ending the world war II as it is evident that ten days after the atomic bomb was dropped in Hiroshima. World war II came to an end.

Weapons of mass destruction is/are something capable of infliction mass casualties and/or destroying or rendering high value assets as useless. Such weapons include but are not limited to chemical, nuclear, biological and bacteriological weapons. The Holy book says “a time to love, and a time to hate’ a time of war, and a time of peace”. This further proves that war or conflict is unavoidable as well as weapons of warfare.

Some of the advantages of such weapons may include it reinforces the idea of nationalism from a boarder-based perspective, it refuses the threat to a country’s military forces, it also serves as a bargaining chip for countries that need it and it may aid in the creation of new technology in other sectors. For instance, approximately 10% of the electricity the world uses every year comes from nuclear reactors.

Just like a two-edged sword, such weapons have its advantages which may include; hat nuclear weapon detonations are directly connected to cancer development, they devastate and damage the environment and ecology, it is expensive to build and maintain etc.

Thus, it can be deduced that the effect of the radiation from such weapons is as deadly as the immediate consequences of such weapons as can be seen in the Hiroshima attack. Nevertheless, the possession of such weapons can serve as a deterrent to global conflict or world wars, in fact it has played a major role in preventing world war III.

History and Evolution

On August 6, 1945, the world changed forever when the first atomic bomb hit Hiroshima, Japan, killing thousands of people instantly. Three days later, a second atomic bomb was dropped on Nagasaki decisively ending Japan’s involvement in World war II. It leads to the death of thousands of persons as a result of radiation poisoning within a year. Since the first nuclear atomic bomb was dropped, World leaders have been forced to contend with the strategic reality of nuclear arms. On the other hand, the biological warfare also known as bacteriological warfare or germ warfare has had a presence in popular culture for over 100 year. The public interest in it became intense during cold war, especially in the 1960 and 1970’s and continues unabated. This biological warfare is the use of biological toxins or infectious agents such as bacteria, viruses, insects and fungi with the intent to kill, harm or incapacitate humans, animals or plants as an act of war. The offensive biological warfare is prohibited under the Customary Intentional and Humanitarian law and several international treaties. In particular, the 1972 biological weapons ^[1]. Convention ban the development and production of weapons.

Therefore, the use of biological agent in armed conflict is a war crime. Attempts to use biological warfare agents date back to ^[2] antiquity. The earliest document incident of the intention to use biological weapons is recorded in Hittite texts of 1500-1200BC in which victims of tularemia were driven into enemy lands causing an ^[3] epidemic. Persian, Greek and Roman literature from 300BC quote examples of dead animals uses to contaminate wells and other sources of water. In the battle of Eurymedon in 190BC, Hannibal won a naval victory over king Ermines II of Pergamon by firing earthen vessels full of venomous snakes into the enemy ships. In 1346, the bodies of Mongol warriors (Tarter) of the Golden Horde who had died of plague were thrown over the walls of the besieged crying city of Kaffa. Specialist disagree about whether this operon was responsible for the spread of the Black Death into Europe, near East and North Africa, resulting in the deaths of approximately 25million ^[4, 5] Europeans. The Assyrians infected their enemy's wells with a rye ergot fungus which contains chemicals related to LSD. Consuming, the tainted water produced a confused mental state hallucinations and in some cases death. Biological agents were extensively used in many parts of Africa from the 16th century AD, most of the time in the form of poisoned arrows or powder spread on the war front as well as poisoning of horses and water supply of the enemy forces. In Borgu, there were specific mixtures to kill, hypnotize, make the enemy bold and to act as an antidote against the poison of the enemy as well the creation of biological were reserved for a specific and professional class medicine men ^[6].

In June 1763, the British Army attempted to use small pox as a weapon against Native Americans at the siege of ^[7] Fort Pitt. In an attempt to spread the disease to the locals, the British presented blankets from a small pox hospital as gifts. In modern times, biological warfare reached sophistication during the 1900's. the germ theory and advances in bacteriology brought a new level of sophistication to the techniques for possible use as biological weapons. They allegedly spread plague in ST Petersburg, Russia, infected mules with ganders in Mesopotamia and attempted to do the same with the horses of the Fresh Calvary.

Biological, warfare and chemical warfare overlap to an extent as the use of toxins produced by some living organisms. It is considered under the provisions of both the Biological Weapons Convention. Toxins and Psychochemical weapons are often referred to as midspectrum agents.

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 weaponized toxic chemicals also fall under the definition of chemical weapons. In World war I (1914-1918), during which gas warfare inflicted more than one million of the casualties in that conflict and killed an estimated 90,000. Since then chemical arms have been employed numerous times, most notably in the Iran-Iraq war (1980-1988) and the Syrian Civil war.

The first proper codification of rules relating to chemical weapons came by means of Art 23(a) Hague Regulations. This article made it especially forbidden to employ poison or poisoned weapons. Due to the inadequacies of Art 23 the need arose for an enlargement provisions with respect to poisonous weapons. None of such was in the 1919 Treaty of Versailles which provided that "The use of asphyxiating, poisonous or other gases and all analogous liquids, materials or devices being prohibited, their manufacture and importation are strictly forbidden Germany". The UN General Assembly has called for the Strict observance of the 1925 Geneva Protocol. In one of its resolutions, the UNGA declared its prohibition of the use in international armed conflicts of. "a) any chemical agents of warfare-chemical substances, whether gaseous, liquid or solid-which might be employed because of their direct toxic effects on man, animals or plants". To settle all these, issues on non-compliance, the chemical weapon convention was formulated, while other provisions merely prohibited the use of chemical weapons.

Nuclear Weapons in Warfare

Nuclear warfare (sometimes atomic warfare or thermonuclear warfare) is a military conflict or political strategy which deploys nuclear weaponry. Nuclear warfare can produce destruction in a much shorter time and can have a long lasting radiological result. Nuclear weapons are the most dangerous weapons on earth. One can destroy a whole city, potentially killing millions and jeopardizing the natural environment and lives of future generations through its long term Catastrophic effects. The dangers from such weapons arise from their very existence. Nuclear weapons represent the most serious terrorist threat. A nuclear weapon suddenly releases best amounts of energy by splitting the nucleus of atoms (fission) and/or by fusing the nuclei of pairs of atoms (fusion). Even a crude nuclear weapon may have the potential explosive force 1000 times higher than the most powerful conventional explosive. To date, the only use of nuclear weapons in armed conflict/warfare occurred in 1945 with the American atomic bombings of Hiroshima and Nagasaki at the end of World War II. On August 6, 1945, a Uranium gun type device (code name "Little Boy") was detonated over the Japanese City of Hiroshima. Three days later on August 9, a plutonium implosion type device (code name "Fat Man") was detonated over the Japanese city of Nagasaki. Together, these two bombings resulted in the deaths of approximately 120,000 people and many more deaths later from cancer and other chronic diseases. This contributed to the surrender of Japan, Nuclear weapons have been detonated on over 2,000 occasions for testing purposes and demonstrations ^[8]. There are approximately 27,000 nuclear weapons thought to be possessed by nine nations: The United States, Russia, France, China the United Kingdom, Israel, India < Pakistan and possibly North Korea. Most of these are strategic weapons which are capable of intercontinental delivery. Others are tactical weapons with ranges less than 310miles (500km). After World War II, nuclear weapons were also developed by the Soviet Union (1949), the United Kingdom (1952), France (1960), and the People 's Republic of China (1964), which contributed to the state of conflict and extreme tension that became known as the Cold War. In 1974, India and in 1998, Pakistan,

two countries that were openly hostile toward each other developed nuclear weapons. Israel (1960's) and North Korea (2006) are also thought to have developed stocks of nuclear weapons, though it is not known how many. The Israel government has never admitted nor denied having nuclear weapons although it is known to have constructed the reactor and reprocessing plant necessary for building nuclear weapons^[9]. South Africa also manufactured several complete nuclear weapons in the 1980's, but subsequently became the first country to voluntarily destroy their domestically made weapons stocks and abandon further production (1990's)^[10]. The United States is thought to possess approximately 10,000 weapons, 5,200 of which strategic; Russia is thought to possess 16,000 nuclear weapons, 3,500 of which are strategic. The possibility of using nuclear weapons in war is usually divided into two sub groups, each with different effects and potentially fought with different types of nuclear armaments. The first, a limited nuclear war (sometimes attack or exchange) refers to a small-scale use of nuclear weapons by two (or more) belligerents. A limited nuclear war^[11] could include targeting military facilities, either as an attempt to pre-emptively cripple the enemy's ability to attack as a defensive measure or as a prelude to an invasion by conventional forces as an offensive measure. This term could apply to any small scale use of nuclear weapons that may involve military or civilian targets. Such an attack would almost certainly destroy the entire economic, social and military infrastructure of the target nation, and would probably have a devastating effect on earth's biosphere^[12].

Biological Weapons in Warfare

Biological warfare also known as bacteriological weapons or germ warfare is the use of biological toxins or infectious agents that are biological in origin such as bacteria, viruses, insects and fungi with the intent to kill, harm, or incapacitate humans, animals or plants as an act of war. Biological weapons are "the poor man's bomb" writes Block in America scientist. In effect, biological warfare is using non-human life to disrupt or end human life, because living organisms can be unpredictable and incredibly resilient, biological weapons are difficult to control potentially devastating on a global scale and prohibited globally under numerous treaties, biological weapons (often termed "bio-weapons", "biological threat agents" or "bio-agents") are living organisms or replicating entities (i.e. viruses which are not universally considered "alive"). Biological agents may be used to cause incapacitation or death to thousands. If the environment is contaminated, a long-term threat to the population could be created. Biological weapons may be employed in various ways to gain a strategic or tactical advantage over the enemy, either by threats or by actual deployments. Like some chemical weapons, biological weapons may also be useful as area denial weapons. There are five different categories of biological agents that could be weaponized and used in warfare or terrorism. These include^[13]: Bacteria (single cell organisms that cause diseases such as anthrax, brucellosis, tularemia and plague).

Rickettsia (microorganisms that resemble bacteria, but differ in that they are intracellular parasites that reproduce inside cells typhus and Q fever are examples of diseases caused by rickettsia organism).

Viruses (intracellular parasites about 1/100 the size of bacteria that can be weaponized to cause disease such as Venezuelan equine encephalitis).

Fungi (pathogens that can be weaponized after extraction from snails, insects, spiders, many organisms, plants, bacteria, fungi and animals. An example of a toxin is ricin which is derived from the seed of the castor bean).

A biological attack and conceivable result in large numbers of civilian casualties and cause severe disruption to economics and societal infrastructure^[14]. Accordingly, biological agents are potentially useful as strategic deterrents, in addition to their utility as offensive weapons on the battle field. The use of biological agents and weapons is not a new concept and history is filled with examples of their uses^[15].

The Geneva protocol of 1925 was signed by 108 nations. This was the first multilateral agreement that extended the prohibition of chemical agents to biological agents/weapons. Unfortunately, no method for verification of compliance was addressed.¹⁵

During World War II, many of the parties involved looked into biological warfare with great interests. The Allies built facilities capable of mass producing anthrax spores, brucellosis, and botulinum toxins, but the war ended before they were used. The Japanese forces operated a secret biological warfare research facility (unit 731) in Manchuria that carried out human experiments on prisoners. The exposed more than 3,000 victims to plague, anthrax, syphilis and other agents in an attempt to develop and observe the disease. Some victims were executed or died from their infections. Autopsies were also performed for a greater understanding of the effects on the human body.

In 1942, the United States formed the War Research Service. Anthrax and botulinum toxin initially were investigated for use as weapons. Sufficient quantities of botulinum toxin and anthrax were stockpiled by June 1944 to allow unlimited retaliation of the German forces first used biological agents. The British also tested anthrax bombs on Gruinard Island off the north west coast of Scotland in 1942 and 1943 and then prepared and stockpiled anthrax laced cattle rakes for the same reason. It was the Japanese who made the most use of biological weapons during World War II as among other terrifyingly indiscriminate attacks, the Japanese Army Air Force dropped ceramic bombs full of fleas carrying the bubonic plague on Ningbo, China.

The following cues from a paper on the history of biological warfare; "The Japanese army poisoned more than 1,000 water wells in Chinese villages to study cholera and typhus outbreaks... some of the epidemics that caused persisted for years and continued to kill more than 30,000 people in 1947, long after the Japanese had surrendered". DR Friedrich Frischknecht, professor of integrative parasitology, Heidelberg University, Germany.

Chemical Weapons

A chemical weapon is a specialized munition that uses chemicals formulated to inflict death or harm on humans. It is the use of toxic properties of chemical substances to kill, injure or incapacitate an enemy in warfare and associated military operations ^[16]. In modern warfare, chemical weapons were first used in World War (1914-1918) during which gas warfare inflicted more than one million of the casualties in that conflict and killed an estimated 90,000 ^[17].

It was also used in the Iran-Iraq war (1980-1988) ^[18] and the Syrian civil war. During the cold war (1945-1991), the United States and Soviet Union built up enormous stock piles of all chemical weapons during the Chemical Weapons Conventions (CWC) of 1993 as the results from such weapons are in discriminatory and devastating.

Types of Chemical Weapons

Some types of chemical weapons ^[18] may include;

1. Choking agents or living toxicants which includes; chlorine, phosgene, chloropicrin, diphosgene etc. Choking agents were employed first by the German army who released chlorine gas from thousands of cylinders along a 6-k front at Ypres, Belgium on April 22, 1915 creating a wind borne chemical cloud. When choking agents are infused into the air, individuals become casualties through inhalation of the vapor which caused fluid to build up in the lungs and can cause death through asphyxiation.
2. Blister agents which include sulfur mustard, popularly known as mustard gas. Casualties are inflicted when personnel were attacked and exposed to blister agents like mustard or lewisite and they can burn the skin, eyes windpipe and lungs. Blood agents such as hydrogen cyanide or cyanogen chloride and when inhaled, prevents the transfer of oxygen to the cells, causing the body to asphyxiate.
3. Nerve agents such as sarin, soman, tabun and VX are chemicals that affect the nervous system. They disrupt the mechanisms by which nerves transfer message to organs.
4. Incapacitating agents such as anticholinergic compounds which make people unable to think clearly or that cause an altered state of consciousness (possibly unconsciousness) ^[19].
5. It is noteworthy that it was the need for a universally acceptable and applicable treaty restricting the use of poisonous weapons that led to the formulation of the Geneva Gas protocol of 1925 the intention of the protocol was to prohibit the use of asphyxiating poisonous and other gases during war as well as bacteriological methods of warfare ^[20].

Advantages of Weapons of Mass Destruction

It is widely believed by majority that weapons of mass destruction only cause harm, but that is not entirely the case. Thus, the following includes some of the advantages of WMD's ^[21];

1. Prevention/Avoidance of Major Conflicts:

Weapons of mass destruction prevent outbreaks of major wars/conflicts. For instance, since the cold war, countries like America and Russia have not experienced any major outbreak of war, despite the many differences that occur between them. Because every country is aware of the great deal of harm that would occur to lives and properties as a result of weapons of mass destruction, there is now enough room for negotiation as a means of conflict resolution. For example, since Russia obtained their first nuclear weapon ^[22], America and Russia have spent more time negotiating. Many persons would certainly view acquisition of WMDs as a negative thing that would only bring about chaos and destruction but in reality weapons of mass destruction do more than that. During the Iraq war ^[23], which was between Iraq and America, America was simply trying to keep Iraq out of the country which in turn saved more lives.

2. Acquisition of Weapons of Mass Destruction Enhances the Sovereignty and Status of a Nation:

Countries in possession of weapons of mass destruction are treated differently on the global stage than countries without those weapons. North Korea for example may only have a dozen or so nuclear weapons at best estimate but their demands are taken with an extra level of seriousness and scrutiny because they have developed rudimentary nuclear weapons technology. Thus, the threat of devastation from this technology is so great that it forces other nations to listen to what the others have to say. Since there is a desire to avoid the outcomes of Hiroshima and Nagasaki, it is not unusual for concessions to be made to those with the greatest power ^[24].

3. Basis for the Creation of other Technologies

The technologies that have helped to create various weapons of mass destruction have fostered other technologies that have benefitted the society in many ways. For example, Nuclear power provides a relatively clean source of energy that is used to power hundreds of thousands of homes around the world. Also, nuclear reactors have been used to build naval vessels and many types of nuclear powered propulsion have been proposed for future spacecraft.

4. Self Defence

Despite all the disadvantages and chaos that comes with the use of weapons of mass destruction, biological and chemical weapons are useful for self-defense. Another country will be less likely to attack another if the

possibility of being attacked in return is probable. Also, the biological and chemical weapons is an easier and cheaper form of weapons of mass destruction which is great for nations who cannot afford a high cost of acquiring various weapons for defense. Thus, some call these weapons a “pear notion’s atomic bomb” which is quite fitting ^[25].

5. Its Attribute of being a Highly Reliable Technology is one of its Greatest Advantage:

Nuclear fission can operate for up to three years without disruption, which is why it is such a useful option for power generation. When we use the refinement processes with nuclear weapons, this advantage presents itself as well. You can install a missile on a delivery platform, and then have it ready to launch for years on standby made with a minimum amount of maintenance. It is a technology that increases the readiness factor of a government and its protective capacity while still reducing the threat of war because of the principles of mutually assured destruction ^[26].

6. Governments can Position Various Weapons of Mass Destruction to a Variety of Launch Locations:

Portable launch vehicles make it possible for government to position various nuclear as well as chemical/gas poisons, at almost any point on land. These government installations allow for underground storage and launch capabilities at numerous development sites across their country. Naval tech indulging submarine can support this launching as well ^[27].

Disadvantages of Weapons of Mass Destruction

The bright light emitted from the nuclear bomb will produce the next set of casualties, permanently blinding both animal and human beings. According to experts, the brightness from the explosion is capable of causing blindness 10miles around in every direction for a 1 Megaton bomb.

The spread of radioactive material in the atmosphere after the use of nuclear weapons will rise to diseases such as Leukemia and cancers for instance, it was reported that after the bombings of Hiroshima and Nagasaki in 1945, 231 deaths were observed from leukemia while 334 deaths were attributed to solid cancers ^[28] all flowing the release of radioactive material. And will also give rise to contamination of vegetation and water and may lead to death of vegetation and water and may lead to death of wildlife, fishes and other living organisms.

The Nuclear explosion allow releases Electromagnetic Pulse (EMP) which is capable of switching off all electrical appliances at the same time. For instance, when a nuclear blast affects a plane in the air which depends largely on electrical equipment, it may lead to significant loss of life to persons as the plane as possible crash.²⁸

The production of nuclear weapons has led to major environmental contamination such as in the area around Chelyabinsk, Russia, which has been heavily contaminated with radioactive materials from the nuclear weapons production facilities in that area.

There are direct costs attributed to a government nuclear weapons program: The united State spent about \$35billion every year to build, upgrade operate and maintain the nuclear weapons stock pile it owns. Figures from Russia where there are similar number of weapons are about equal. Even third party estimates of the expense to maintain an entire portfolio of these exclusive devices place the expense at \$25billion or higher. That means we could take the money that we spend on destructive devices, switch it to food development and cure global hunger overnight with that amount of money,

The use of nuclear weapons creates a significant threat of terrorism: The nuclear threat initiative works to create a better world from Washington DC by working to prevent terrorism with these harm weapons. The number of countries that are storing the dangerous materials that could lead to atomic weaponization has decreased from 52 in 1992 to a little over 30 today. Terrorist organizations now have easier access to the materials and knowledge needed to build these weapons as well. Some have declared their intents to seek the necessary materials to create mass destruction weapons. If we have nuclear weapons, then will always have the threat of loss that terrorism could provide.

There will always be moral and ethical debate about the use of nuclear weapons: We can point to the two cities in Japan that experience direct detonation to speak to it advantage. The mass loss of civilians lives from nuclear weapons would go far beyond what any mass shooter in the united states would create. We must also look at more than 2000 test exposures that researchers generated in quest to develop this technology. The primary has made contribution to the exposure of the world’s population to radiation has come from testing this weapons in the atmosphere from 145-190 ^[29].

The effect of chemical weapons was that gas attacks were very dependent on weather. A huge disadvantage was wind direction. Sometimes the wind would blow the air in the opposite direction and troops will endure gasping themselves ^[30].

In the event of chemical warfare, Nerve gases have very high potency to contaminate water as small quantities can produce toxic symptoms from ingestion. The liquid can be absorbed through intact skin and also through from ingesting of contaminated food. The production of chemical weapons associated with serious accident to workers and with high levels of pollution in the production sites and near community.

In 1960’s the U.S military had developed a biological arsenal that included numerous biological pathogens, toxins and fungi plant pathogens that could be directed against crops to induce crop failure and famine.³⁰

During the World War 1 (1914-1918), the psychological damage from “gas fright” and the exposure of large numbers of soldier’s munitions workers and civilians to chemical agents had significant public health consequences.

Conclusion

In summary, the use of weapons of mass destruction has been the subject of controversy over the years. These weapons of mass destruction are weapons that are able to cause widespread devastation and loss of life. These weapons have their pro’s and con’s which have been explored in this paper.

It is notable that international laws have put in place a ban on the use of such weapons as a result of the mass casualties. Despite this ban, countries like Russia, United States, France, United Kingdom, India, Pakistan, and possible North Korea are known to have these weapons of mass destruction in their possession. This may be for defense or security purposes.

This may be the ground for Alex Konanykhin, a Russian businessman put a bounty of 1,000,000 dollars on Vladimir Putin’s head as a war criminal under Russian and International laws.

Concerns about the devastating effects of nuclear weapons have driven governments to negotiate arms control agreements. Some of the earliest ones include nuclear test. Ban Treaty of 1963 and the treaty on the Non-proliferation of Nuclear weapons 1968.

Recommendation

From the foregoing findings, I humbly make the following recommendations:

That the use of or being in possession of weapons of mass destruction should be permitted but seriously regulated by bodies such as international Atomic energy Agency and the likes of it which seeks to promote the peaceful use of nuclear energy and go inhibit its use for any military purpose. Such regulation may be by the promulgation of circumstances, where such weapons may be used or permitted which include:

- Very serious cases in which all forms of dialogue and mediation has been applied but to no avail.
- In self-defense and to deter the aggressor state from further perpetration its violent acts of destroying lives of citizens of the victim state or properties in which victim state using the ongoing Ukraine-Russia war, if Ukraine had developed and possessed their nuclear plant power, maybe Russia won’t even have invaded them in the first place or where they do, Ukraine may threaten to make use of such weapon just to deter or discontinue such invasion.
- Such regulations may also be by countries signing a treaty that they will not venture into the production of full scale weapons of mass destruction which has the effect of wiping out a very large amount of people, both military and civilians.

Some persons may argue that a war can never be justified due to the degree of collateral damage and exponential ecological damage they can cause. But a war can be justified thus Thomas Aquinas postulated conditions for a just war. Which include:

- a. The war must have a just cause, for example, for self-defense and not to acquire wealth or power.
- b. The war must be declared a controlled by a proper authority. Example, the state. The above postulations are in line with sections 39-43 the UN charter which provides for when the united Security Council may permit or authorize the use of force where necessary.

Finally, the challenge for the United Nations, international atomic energy, Agency and for other International bodies is to find ways to better address these security needs. States are willing to adhere to non-proliferation or disarmament instruments only when they can trust that their security is better ensured without weapons than with them.

References

1. Biological weapon convention, 1972.
2. Mayor A. Greek Fire, poison Arrows and scorpion Bumps; Biological and chemical warfare in the Ancient World, 2013.
3. Trevisanto SI. “The Hittite Plague; and epidemic of Thalaremia and the first record of biological warfare
4. Andrew G. Robertson and Laura. J. Robertson. “Trum asps to allegations: biological warfare in history. “Military Medicine 1995.
5. Akinwumi, Olayemi. “Biologically based warfare in the pre-colonial borgu society of Nigeria and republic of Benin, 1995.
6. Koenig, Robert. The fourth Horse man; one man’s secret campaign to fight the Great War in America, public affairs, 2006.
7. The Nuclear Testing Tally- Arms Control Association.
8. Hersh Seymour. The Samson option Random House, 1991, 130
9. Bike John “Nuclear weapons program”.
10. Sokov NN. why Russia calls a limited nuclear strike “de-escalation, 2015.
11. <[https://www. Wikipedia. Com](https://www.Wikipedia.Com)>

12. Kobientz Gregory. "pathogens of weapons; The international security implications of biological warfare, 2003.
13. Archived, 2011. at the way back machine.
14. Baxter B, Buegenthal T. "Legal aspects of the Geneva protocol of 1925. The American Journal of International law, 2017.
15. <[https://www. OPCW.org](https://www.OPCW.org).>
16. The Iran-Iraq war contemporarily known as the Persian Gulf war was a protracted armed conflict as the Persian Gulf was a protracted armed conflict that began on 22nd September, 1980 with a full scale invasion f Iran by neighboring Iraq.
17. <<https://www. Britannica. Com>>
18. <<https://www. Health. Ny. Gov>>nerve
19. Wigwe CC. international Humanitarian law (Readwide publishers), 2010.
20. Weapons of mass destruction which include; nuclear biological/bacteriological and chemical weapons.
21. On August 29th, 1949.
22. Where between 48,000 and 751,000 people died as a result of weapons of mass destruction.
23. <<https://Connectusfund.org>>
24. <<https://connectus fund. Org>>
25. <<https://vittana.org>>
26. <<https://www.wikipedia.com>>
27. Wigwe CC. international Humanitarian law (Readwide Publishers 2010)
28. <<https://future of working.com>>