

BIOLOGICAL WEAPONS CONVENTION TOWARDS FULL AND IMMEDIATE ACTIVATION





➤ Introduction

Biological weapons are the second most dangerous weapons of mass destruction (WMD). After the Coronavirus pandemic, biotechnology witnessed a boom and biological laboratories have increased, taking a remarkable leap forward in microbiology. Some believe that biological weapons are now more powerful than nuclear weapons, as they have become a real threat to states.

Biological weapons are the deliberate use of disease-causing organisms, plants or toxins to spread pandemics and fatal diseases among humans, animals, and crops. Biological weapons are responsible for the large-scale outbreaks and dreadful attacks. They are produced at a lower cost, compared to other WMDs, are hard to be detected by regular defense systems, and are easily transported from one place to another. Awareness of the danger of using biological weapons has increased, especially in recent years, after they have been used for fighting terrorism. For example, on March 20, 1995, members of the cult movement, Aum Shinrikyo, entered the Tokyo subway system and released sarin, a deadly nerve gas, killing 12 people and badly affecting the health of nearly a thousand others.

Because of the dreadful consequences of these weapons, discussions were held politically and internationally, to ban hazardous biological activities worldwide. Therefore, countries took the initiative to hold conferences in order to dismantle programs of weapons of mass destruction of all kinds. The two most important international declarations on the prohibition of biological weapons were the Brussels Declaration of 1874, and the Hague Declaration of 1899. The meetings and negotiations continued until **the 1972 Convention** on the Prohibition of Biological Weapons was approved in Geneva, Switzerland, which prohibited the development production and stockpiling of bacteriological and toxin weapons. This Convention entered into force in 1975. The agreement also included the prevention of the use of biological materials for peaceful or defensive purposes and the development of scientific scouting in the field of biology to prevent the spread of epidemics.

Therefore, within the framework of their interest in the work of the Ninth Review Conference of the Biological Weapons Convention, Maat for Peace, Development and Human Rights and the Global Coalition for the Limitation of Armaments (GCLA) wish to present their joint vision of the Convention on the Prohibition of the Production and Transfer of Biological Weapons through a number of axes: -

➤ **What are Biological Weapons?**

- **The legal framework governing the prohibition of the production and use of biological weapons.**
- **The impact of biological weapons on international peace and security.**
- **Biological weapons and sustainable development.**
- **The role of civil society in raising awareness of the threat of biological weapons.**
- **Maat and the GCLA vision of the Biological Weapons Convention.**

What Are Biological Weapons?

Biological weapons are disease-causing organisms or substances used with the intent of harming or killing an animal, plant, or human being. Their effect depends on their ability to reproduce in the body of the human, animal, or plant they attack. Many types of organisms such as viruses, fungi as well as bacteria can be used as biological weapons.

Biological weapons disseminate disease-causing organisms or toxins to harm or kill humans, animals, or plants. They generally consist of two parts – a weaponized agent and a delivery mechanism. In addition to strategic or tactical military applications, biological weapons can be used for political assassinations, the infection of livestock or agricultural produce to cause food shortages and economic loss, the creation of environmental catastrophes, and the introduction of widespread illness, fear and mistrust among the public.

✓ Weaponized agent in biological weapons

Almost any disease-causing organism (such as bacteria, viruses, fungi, prions or rickettsiae) or toxin (poisons derived from animals, plants or microorganisms, or similar substances produced synthetically) can be used in biological weapons. The agents can be enhanced from their natural state to make them more suitable for mass production, storage, and dissemination as weapons. Historical biological weapons programs have included efforts to produce: aflatoxin; anthrax; botulinum toxin; foot-and-mouth disease; glanders; plague; smallpox; and tularaemia, among others.

✓ Delivery mechanism in biological weapons

Biological weapons delivery systems can take a variety of forms. Past programs have constructed missiles, bombs, hand grenades and rockets to deliver biological weapons. A number of programs also designed spray tanks to be fitted to aircraft,

cars, trucks and boats. There have also been documented efforts to develop delivery devices for assassinations or sabotage operations, including a variety of sprays, brushes and injection systems as well as means for contaminating food and clothing.¹

➤ **Biological weapons as weapons of mass destruction**

The biological weapon is one of the forms of non-conventional weapons of mass destruction, which was previously called the (smart sanctions) weapon that spreads epidemics and germs to eliminate the largest possible number of the population and destroy the environment. The use and development of biological weapons in the military is a violation of international covenants and the Biological Weapons Convention which prohibit their use, especially since this type of weapon has a greater and more dangerous economic and health impact compared to conventional weapons. Official estimates and statistics indicated that the comparative cost of civilian casualties is \$2,000 per square kilometer with conventional weapons, \$800 with nuclear weapons, \$600 with nerve-gas weapons, and \$1 with biological weapons.

Although this weapon has witnessed an alarming development thanks to modern advances in genetic engineering techniques in recent years, it is not a new weapon on the international scene. The origins of its use date back to World War I. In 2001, powdered anthrax spores were deliberately put into letters that were mailed through the U.S. postal system. Al-Qaeda topped the list of suspects, but the FBI findings led them to suspect a senior biodefense researcher at the United States Army Medical Research Institute of Infectious Diseases (USAMRIID).²

Biological weapons are the cheapest when compared to chemical or nuclear weapons. Germs of disease-causing microbes can be prepared in a simple and uncomplicated way by some skilled biologists, as their preparation does not require modern or complex scientific techniques, nor numerous or sequential interactions. It is only the human conscience that stands in the way of its production. Voices are raised worldwide to avoid the manufacture of these weapons so that the international community can live in security and prosperity.³

¹ What are Biological Weapons? UNODA, link, <https://www.un.org/disarmament/biological-weapons/about/what-are-biological-weapons/>

² بعد التحذير الروسي هل يحسم السلاح البيولوجي حرب اوكرانيا، سكاى نيوز عربية، 20 مارس 2022، الرابط، <https://bit.ly/3rc8qrF>

³ الحرب البيولوجية الجرثومية والهجمات الكيميائية، المنتدى العربي للدفاع والتسلح، الرابط، <https://defense-arab.com/vb/threads/85588/>

Compared to the production of nuclear weapons, biological weapons are significantly less expensive and require only an equipped laboratory and a specialized team, but they are more expensive in the delivery stages. Moreover, these weapons are very lethal, as one gram of poison can kill more than two million people, according to scientific estimates. Therefore, they are popular in poor countries, and are called “the bomb of the poor”.⁴

Legal Framework Governing the Prohibition of the Production and Use of Biological Weapons

The Biological and Toxin Weapons Convention (BTWC) of 1972 is based on a solid base opposing the use of biological weapons and their enhancements. This rule is included in the Geneva Protocol of 1925, which prohibits the use of chemical and bacteriological methods of warfare in war. The BTWC has strengthened and supported that rule. It imposed effective biological disarmament. Hence, the BWC complements the Geneva Protocol of 1925, which prohibits the use of these weapons in war.⁵

The Biological Weapons Convention (BWC) is a key component of the international community's efforts to counter the proliferation of weapons of mass destruction. It has established a strong standard against biological weapons. The Convention has achieved near-full universality. In November 2021, the number of state parties thereto jumped to 183 and four signatories. **As for the Arab countries, there are 17 Arab countries that are parties to the Convention, in addition to three signatory countries; Egypt, Somalia and Syria. However, Djibouti and the Comoros Islands have not yet acceded to the Convention.**

The Convention, formally known as the ***Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction***, raised negotiations in the Conference of the Disarmament Committee in Geneva, Switzerland. On April 10, 1972, the BWC was opened for signature as the first multilateral disarmament treaty banning the development, production and stockpiling of an entire range of weapons of mass destruction, and it entered into force on March 26, 1975. The BWC complements the Geneva Protocol of 1925, which prohibited the use of biological weapons only. States

⁴ منع أم تصنيع.. لغز الأسلحة البيولوجية بأوكرانيا، العين الاخبارية، 6 ابريل 2022، الرابط، <https://al-ain.com/article/ukraine-biological-weapons>

⁵ إنشاء منطقة خالية من أسلحة الدمار الشامل في الشرق الاوسط، معهد الامم المتحدة لبحوث نزع السلاح، 2004، الرابط، <https://www.unidir.org/sites/default/files/publication/pdfs/building-a-weapons-of-mass-destruction-free-zone-in-the-middle-east-global-non-proliferation-regimes-and-regional-experiences-arabic-en-544.pdf>

parties to the Biological Weapons Convention have undertaken that it is absolutely forbidden under any circumstances to develop, produce, stockpile, acquire or otherwise maintain:

- 1- Bacterial or other biological agents or toxins, whatever their source or method of production, of types and quantities that do not justify prevention, protection or other peaceful purposes.
- 2- Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.

States parties to the BWC have sought to ensure that the Convention remains relevant and effective despite advancements in science, technology, policy and security since it entered into force. Since its entry into force, state parties have been meeting roughly every five years to review the work of the Biological Weapons Convention. Between these review conferences, the State Parties have pursued various activities and initiatives to enhance the effectiveness of the Convention and improve its implementation. A total of eight review conferences have been held since the first conference in 1980.⁶ Several measures have been adopted in subsequent conferences; **the 2nd Review Conference** (1986) agreed that the states parties should implement a number of confidence-building measures to prevent or reduce the occurrence of any confusion, suspicion or mistrust and for the improvement of international cooperation in the field of peaceful biological activities.

The 3rd Review Conference (1991) recognized the need to further strengthen the BWC. Thus, a Panel of Governmental Experts (VEREX) was formed to identify and examine potential verification measures from a scientific and technical standpoint.. At a special conference held in September 1994, the States Parties agreed to establish an Ad Hoc Group of States Parties to the Biological Weapons Convention in order to negotiate and establish a legally binding verification system for the Convention.

The 4th Review Conference in 1996 welcomed the decision of the Ad Hoc Group to intensify its work with a view to completing it before the Fifth Review Conference scheduled for 2001. The Ad Hoc Group was not able to conclude negotiations on the draft legal instrument (Protocol).

In view of the continued divergence of opinions and positions on some basic issues, the **5th Review Conference**, held in 2001, decided to postpone its procedures and resume its work in Geneva in November 2002. The conference was reconvened in

⁶ Biological Weapons Convention, UNODA, link, <https://www.un.org/disarmament/biological-weapons/>

November 2002 and adopted a final report that included a decision to hold annual meetings of the States Parties and meetings of experts in the following three leading up to the review conference in 2006.

The **6th Review Conference** in 2006 succeeded in conducting a comprehensive review of the Convention and adopted an outcome document by consensus. The States Parties adopted a detailed plan to promote universal accession and decided to modernize and simplify the procedures for submission and distribution of confidence-building measures. These countries also adopted a comprehensive intersectional program from 2007 to 2010. In a significant development, the Conference agreed to establish an Implementation Support Unit to assist States Parties in implementing the Convention.⁷

➤ **Key Obligations under the Convention:**

- According to Article 1, it is prohibited to develop, produce, store, possess or keep in any other way:
 - 1) Biological agents or toxins of types and quantities that have no justification for peaceful uses
 - 2) Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes.
- According to Article 2, within nine months of the entry into force of the Convention, all agents, toxins, weapons, equipment and means of delivery specified in Article 1 must be destroyed or converted to peaceful purposes in its possession, jurisdiction or control.
- Article 3 decided not to transfer or, in any way, assist, encourage, or urge any entity to manufacture or obtain any of the agents, toxins, weapons, equipment, or means of delivery specified in Article One.
- Article 4 decided to take any necessary measures to prohibit and prevent the development, production, stockpiling, possession or retention of any of the agents, toxins, weapons, equipment or means of delivery specified in Article 1 under its jurisdiction or control.⁸

In addition, the BWC provides for a number of other obligations between the parties in areas such as:

⁷ الاسلحة البيولوجية، الامم المتحدة، الرابط،

<https://www.un.org/disarmament/ar/%D8%A7%D9%84%D8%A3%D8%B3%D9%84%D8%AD%D8%A9-%D8%A7%D9%84%D8%A8%D9%8A%D9%88%D9%84%D9%88%D8%AC%D9%8A%D8%A9/>

⁸ يمكن الرجوع إلى اتفاقية حظر استحداث وإنتاج وتخزين الأسلحة البكتريولوجية (البيولوجية) والتكسينية وتدمير تلك الأسلحة على موقع اللجنة الدولية

للصليب الاحمر، الرابط، <https://www.icrc.org/ar/resources/documents/treaty/convention-on-the-prohibition-of-biological-weapons>

- 1) Assistance and cooperation with other parties in the use of biological agents and toxins for peaceful purposes (Article X).
- 2) Consultation and cooperation in resolving disharmony with the Convention (Article V).
- 3) Complaints in the event of a possible breach of the obligations of the Convention (Article VI).
- 4) Assisting other parties who are at risk as a result of the violation of the Convention (Article VII).

In addition, the States Parties agreed to the annual exchange of confidence-building measures in order to prevent or reduce the occurrence of ambiguities, and suspicions and to improve international cooperation in the field of peaceful biological activities. Confidence-building measures include information provided by States Parties on their activities and developments in the following areas:

- Research centers and laboratories.
- Research and development programs in the field of biological defense.
- Previous offensive biological research and development programs.
- Vaccine production facilities.
- Relevant legislation, regulations and measures.
- Encouraging the dissemination of results and promoting the use of knowledge and the spread of infectious diseases.⁹

In addition to the measures taken by national governments, universities, NGOs and industry at the national level can take complementary measures and make significant contributions. A number of universities have made significant efforts to develop educational programs for scientists on dual-use research and biosecurity. Other initiatives may include developing a culture of responsibility among the professionals involved and voluntary work on developing, adopting and promulgating codes of conduct.¹⁰

Hence, it can be said that the Geneva Protocol of 1925 prohibited the use of biological weapons only, but didn't prohibit their production, storage, possession or transfer, which was considered a failure on the part of this protocol. This shortcoming allowed Japan to use biological weapons, including cholera, anthrax, and plague, against China in the early 1940s, in flagrant violation of International legal standards. The number of Chinese people who died as a result of biological weapons range from a few

⁹ About the Biological Weapons Convention, US Department of States, 20 January 2021, link, <https://www.state.gov/about-the-biological-weapons-convention/>

¹⁰ اتفاقية الاسلحة البيولوجية، مكتب الامم المتحدة لشؤون نزع السلاح، 2021

thousand to hundreds of thousands. Thus, the Convention on the Prohibition of the Development, Production and Stockpiling of Biological Weapons came in 1972 to complement the Geneva Protocol of 1925. On April 28, 2004, the UN Security Council adopted Resolution No. 1540 on the prohibition of biological weapons, which requires that all countries adopt national laws to prevent and punish acts prohibited by the 1972 Convention. Moreover, the resolution reaffirmed the obligation on States parties to the Convention to ensure that the necessary measures are taken to fully implement this obligation.¹¹

As such, upon the occurrence of any violation of the Convention, i.e. any use in wartime of biological weapons or toxic materials, a complaint must be submitted to the Security Council, which may then open an investigation and communicate its findings to the States Parties. The measures that the Security Council shall take, when deemed necessary, depend on its assessment of the situation in light of the relevant provisions of the Charter. Article VII states that in case the Council decides that a party has been exposed to danger as a result of a violation of the Convention, then that party may request assistance. Each state party to this Convention undertakes to provide or support such assistance in accordance with the Charter of the United Nations.¹²

In addition to addressing issues of disarmament and security, the Biological Weapons Convention supports the promotion of the peaceful uses of biological science and technology, which helps prevent the global spread of diseases. Article 10 urges state parties to facilitate the exchange of equipment, materials, scientific and technical information, for the use of biological agents and toxins for peaceful purposes. The Biological Weapons Convention also helps build capacity to respond to disease outbreaks as it provides a multilateral framework through which states parties can meet regularly to provide advice and assistance to each other in developing their national capacities in areas such as disease surveillance, detection and diagnosis, biosafety and biosecurity, education, training, awareness-raising and response for emergencies as well as legal, organizational and administrative procedures.¹³

Hence, it can be said that the Biological Weapons Convention is the only multilateral forum in which participants can comprehensively discuss all aspects of biological

¹¹ القرار 1540 لسنة 2004 ، الامم المتحدة، الرابط، <https://www.un.org/disarmament/ar/%D9%82%D8%B1%D8%A7%D8%B1-%D9%85%D8%AC%D9%84%D8%B3-%D8%A7%D9%84%D8%A3%D9%85%D9%86-1540-2004/>

¹² سعد الدين مراد، الحظر والقيود على الاسلحة الحديثة في إطار القانون الدولي الانساني، 2017، مركز جيل للبحث العلمي، الرابط، <https://bit.ly/3612c6A>

¹³ اتفاقية الاسلحة البيولوجية، مكتب الامم المتحدة لشؤون نزع السلاح، 2021

weapons and address their issues in a comprehensive manner. In this way, the meetings of the Convention gather experts from all over the world, and provide a platform for cooperation and exchange of information to fulfill international security obligations.

Impact of Biological Weapons on International Peace and Security

Despite what was stipulated in international treaties established after World War II regarding the prohibition of biological weapons, many countries are still racing to possess these deadly weapons. In the face of this, all pandemics breaking out worldwide were interpreted as part of a major global conflict, which has been confirmed by the emergence of successive global epidemics, such as mad cow disease (BSE), bird flu, swine flu, anthrax, SARS and, finally, Coronavirus.¹⁴

The use of biological weapons has many negative effects on international peace and security, as it may lead to:

✓ **Outbreak of biological warfare**

Biological wars fall under the classification of wars of mass destruction, and the danger of biological weapons lies in the fact that there are no easy means to protect against the effects of their deadly attacks. The use of these weapons is not limited to times of war, as local incidents have occurred in the United States and Japan, and the terrorist organization ISIS used them against defenseless civilian populations in towns that refused to submit to its control.¹⁵

The philosophy of biological warfare is based on creating a parallel and integrated army of microorganisms equivalent to the real actual army of the state. In this way, the state possesses two full armies, an army of fighting soldiers and another army of germs and bacteria.¹⁶

Accordingly, biological warfare is a war in which microorganisms of bacteria, germs, microbes, and viruses are used to harm hostile forces and destroy their animals and plants. It is also the capabilities used to repel biological attacks and defend against hostile forces that use this type of weapon. Biological warfare can be a short-term one, aims only at harming the national economy of a country by draining part of its

¹⁴ د. أيمن عبد العظيم رحيم، الحرب البيولوجية قديما وحديثا، مايو 2020، الرابط،

<https://pulpit.alwatanvoice.com/articles/2020/04/05/518271.html>

¹⁵ كيف تعمل الحرب البيولوجية والكيميائية، العربية نت، 20 مايو 2020، الرابط، <https://bit.ly/3O0ISJO>

¹⁶ د. أيمن عبد العظيم رحيم، الحرب البيولوجية قديما وحديثا، مايو 2020، الرابط،

<https://pulpit.alwatanvoice.com/articles/2020/04/05/518271.html>

budgets in addressing these damages. Or it can be more deadly and dangerous, aiming at killing people.¹⁷

Among the most important examples showing that biological weapons are a cause of wars is that biological weapons were one of the declared reasons for the outbreak of the Ukraine war. The Russian government claimed that the United States of America used a number of Ukrainian cities to set up biological laboratories to conduct experiments on the activities of some viruses and pathogens, and that this is the real reason for the military operation led by Moscow on February 24, 2022. The Russian Ministry of Defense revealed that it had arrested numbered birds, which were released from biological laboratories in Ukraine in the regions of Ivanovo and Voronezh, explaining that the United States of America is implementing a project on Ukrainian soil to study the transmission of pathogens by migratory wild birds between Ukraine, Russia and other neighboring countries with the aim of establishing a mechanism for the clandestine spread of deadly pathogens.¹⁸

Based on this intelligence, Russia submitted, in March 2022, a request to the Security Council to hold an emergency session to discuss the file of Ukrainian biological weapons that are being developed with the assistance of the United States of America. Despite the US administration's denial of these allegations, Victoria Nuland, the US Deputy Secretary of State for Political Affairs, made different statements. Nuland confirmed before a congressional hearing committee the existence of biological research facilities on the territory of Ukraine and confirmed that the US is working to prevent these sites from falling under the control of Russia. There are biological laboratories inside Ukraine, and since 2005 the United States has provided support to a number of institutions to prevent the production of biological weapons. In addition, the United States is concerned that Russian forces could try to take control of it. That is why it is teaming with the Ukrainians to prevent Russia from reaching these research materials.¹⁹

✓ Bioterrorism

Bioterrorism is defined as the deliberate release or threat of release of some biological agents that may many diseases or death among residents of some areas, in

¹⁷ د. أيمن عبد العظيم رحيم، الحرب البيولوجية قديما وحديثا، مايو 2020، الرابط،

<https://pulpit.alwatanvoice.com/articles/2020/04/05/518271.html>

¹⁸ رعب عالمي المختبرات البيولوجية في اوكرانيا تهدد البشرية بالفناء، العربية نت، 25 مارس 2022، الرابط، <https://bit.ly/3Kqn1qN>

¹⁹ منع أم تصنع... لغز الاسلحة البيولوجية بأوكرانيا، العين الاخبارية، 6 ابريل 2022، الرابط، <https://al-ain.com/article/ukraine-biological-weapons>

addition to harming food crops and livestock, terrorizing innocent civilians, ruining their properties, and in some cases triggering epidemics or plagues. The definition of bioterrorism by the US Centers for Disease Control and Prevention (CDC) is not much different from the previous definition, as it was defined as the intentional release of viruses, bacteria, or other germs that can sicken or kill people, livestock, or crops. Although the elements or materials used in terrorism Biological organisms are natural, the human intervenes in order to modify and change their characteristics to increase their ability to cause disease or the desired effect in a way that is difficult to detect with its spread in the environment, and its damage does not appear until after several hours or days.²⁰

Bioterrorism is the most dangerous phenomenon after nuclear terrorism. Terrorists use, in their bloody attacks, deadly biological tools that lead to the outbreak of epidemic diseases. These weapons are silent and invisible; they can strike without warning, as their effects do not appear until after the perpetrator of the crime has disappeared²¹. Among the most famous terrorist attacks in which biological weapons were used was the attack by a group of Aum Shinrikyo cult in Japan on March 20, 1995, when they attacked five subways with sarin gas, killing 12 people and badly affecting the health of nearly a thousand others, followed by the anthrax attacks on the United States of America in 2001.

The outbreak of the Covid-19 pandemic in the world also showed the vulnerability of modern societies to viral infections, and the ability of epidemics to destabilize these societies. International reports confirmed the existence of fears of an increased risk of biological attacks by terrorist groups using viruses and bacteria in the post-Corona pandemic era. Terrorists may deliberately resort to using pathogens or other effective biological materials in their attacks. Thus, the damage to people and the economy becomes much greater than traditional terrorist attacks. Experts warn that the damage will be quick and global and that these attacks may paralyze societies for long periods, spreading widespread fear and mistrust among all peoples, not just the affected areas. Confronting this potential threat requires more cooperation and joint efforts at the international level. Besides, there is a need to provide training on how to combat biological attacks and prepare to repel biological attacks.²²

²⁰ كيف ظهر تهديد الارهاب البيولوجي وماهي طرق مقاومته؟، موقع تسعة، فبراير 2019، الرابط،

<https://www.ts3a.com/%D8%A7%D9%84%D8%A5%D8%B1%D9%87%D8%A7%D8%A8-%D8%A7%D9%84%D8%A8%D9%8A%D9%88%D9%84%D9%88%D8%AC%D9%8A/>

²¹ خطورة الارهاب البيولوجي، الرابط، <https://www.asjp.cerist.dz/en/article/42573>

²² بعد كورونا مخاوف من هجمات ارهابية بأسلحة بيولوجية، سكاى نيوز عربية، 25 مايو 2020، الرابط، <https://bit.ly/3rf8cQy>

✓ Negative Impact on the Environment

Biological weapons are among the most lethal and destructive weapons known; they are used to deliberately disseminate disease-causing organisms or toxins to harm or kill humans, animals or plants. They are also used against agricultural crops and livestock, which are the core of the economy of some countries. Among the most famous types of diseases used in biological warfare: anthrax, smallpox, plague, cholera, and avian influenza.

In addition to the catastrophic effects of biological weapons, their danger lies in their low cost, speed and ease of preparation, transportation and use compared to other weapons of mass destruction. In contrast to nuclear and chemical bombs, the biological bomb can be developed amidst complete secrecy, as it spreads invisibly through the air, it is colorless and odorless, and therefore cannot be discovered and its source can't be identified. One of the dangers of biological weapons is that it infects living organisms that are not intended for military attack, and it is difficult to differentiate between them and natural pathological conditions that may share symptoms with them. With scientific progress, bioengineering has increased the risk of using biological weapons due to its ability to prepare bacterial weapons for specific military targets.

It is worth noting that biological weapons not only have direct effects on the genetic diversity of native plants and animals, but also have direct and indirect catastrophic effects on vital communities of plants and animals. Hence, voices are raised in the international community to control destructive weapons because of the grave danger they pose to humanity and the environment alike. Failure to prevent biological attacks can lead to the deterioration of genetic diversity in animals and plants, the extinction of endangered species and the consequent dire consequences for nature. It will also lead to the exclusion of the indigenous population, the destruction of human livelihoods and traditional cultures, and in all previous cases, the environment with its multiple elements will be the biggest loser, as biological weapons lead to an environmental imbalance.²³

From this standpoint, it is concluded that it is not easy to put an end to the biological arms race. Therefore, global efforts must be unified to combat these threats. Countries must enhance their capacity for early detection of disease. Health and life sciences professionals and economists must communicate with legislators to

²³ آثار الحروب البيولوجية على البيئة والتنوع الحيوي، الرابط، <https://bit.ly/3Jlz1Zi>

convince them of the importance of developing a defense device to counter the indirect effects of biological weapons on ecosystems and important sectors in national economies. Certainly, it is imperative to raise the necessary awareness regarding the dangers of biological warfare.

Biological Weapons & Sustainable Development

Global peace-building efforts, as one of the main goals of achieving the sustainable development agenda, require an effective mechanism to eliminate weapons of mass destruction, and the global elimination of biological weapons requires continuous efforts by all. In particular, the Biological Weapons Treaty lacks verification and compliance procedures and there is no enforcement body to monitor compliance nor does it prevent states from carrying out clandestine biological weapons programs.

The Sustainable Development Goals (SDGs) provide an additional incentive to develop the mechanisms through which sustainable peace can be achieved, given that the links between the disarmament agenda and the sustainable development agenda are strong. Excessive spending on weapons drains resources for sustainable development. Moreover, excessive focus on armaments is incompatible with the creation of inclusive and stable societies, strong institutions, effective democracy, good governance and a culture of peace based on respect for human rights.

Disarmament overlaps with many of the Sustainable Development Goals. This measure can help restore the historical relationship between disarmament and development and emphasize human security above border security. The overarching SDG agenda is also closely linked to progress on Goal 16 Peace, Justice and Strong Institutions, which includes targets on disarmament and weapons regimes. The disarmament agenda is closely linked to the Sustainable Development Goals, such as Goal 3 (good health and well-being), Goal 4 (quality education), Goal 5 (gender equality), Goal 8 (decent work and economic growth) and Goal 10 (reduce inequality).), Goal 11 (sustainable cities and communities), Goal 14 (life below water), Goal 15 (life on land) and Goal 17 (Partnerships for the Goals).

In relation to Goal 3 for example, armed violence is a leading cause of premature death. Thus, disarmament and arms control can reduce the impact of conflict on human health. Gender-responsive disarmament and arms control can reduce violence against women and girls in line with SDG 5. Disarmament and arms control can support SDGs 14 and 15 by reducing the impact of weapons on the environment.

The testing and use of nuclear, chemical and biological weapons have polluted the environment and contributed to the ecological crisis.

Effective countering of the threat posed by biological weapons also requires several mutually reinforcing multilateral actions, including strengthening the ban regime, public mobilization and strengthening the political will. Freeing the world from weapons of mass destruction, especially biological weapons, requires promoting transparency and building confidence that all state parties are complying with the agreement and punishing violators, possibly under the supervision of the Security Council. To achieve this goal, there must be greater awareness among the public and pressure on the UN and governments to strengthen the system for the destruction of stockpiles of biological weapons and the non-production of new ones. In particular, perhaps, a renewed and expanded Security Council is needed to ensure a world free of weapons. Renewed efforts to link disarmament with Sustainable Development Goals must bear fruit.²⁴

Role of Civil Society in Raising Awareness of the Threat of Biological Weapons

Policymakers are increasingly focusing on the threat that access to biological weapons could pose from non-state actors (terrorist groups in particular). Establishing and maintaining effective systems to prevent the spread of biological weapons requires efforts by different actors at different levels. Civil society organizations can play an important role in mobilizing public awareness and increasing knowledge about preventing the spread of biological weapons. Through the establishment of alliances and initiatives to prevent biological weapons, attention has been directed toward civil society organizations for their efforts, especially that civil society organizations may be able to provide scientific and academic expertise in areas related to the production of biological weapons, as well as being able to contribute to capacity-building projects and technical assistance to countries and governments in this regard.²⁵

For example, research centers contribute in most countries of the developed world and cooperate effectively with governments to search for a system for early detection of bioterrorism attacks in a way that can guarantee protection for safe people, but the matter is still under discussion so far, so no specific protection system has been revealed, so it is always advised to search for any unusual diseases that do not usually

²⁴ Joe Thomas, SDG agenda a pipe dream without sustainable peace, disarmament, May 2022, link, <https://joethomas.in/archives/819>

²⁵ Daniel Feakes, Global Civil Society and Biological and Chemical Weapons, SUSSEX, link, <http://www.sussex.ac.uk/Units/spru/hsp/documents/Feakes%20chapter.pdf>

appear in that area as a suspicious sign of a biological weapon attack, and the emergence of new types of bacteria or viruses that are resistant to antibiotics is a matter of suspicion because some biological agents are modified to be more deadly, as they are accompanied by the emergence of atypical symptoms that are more dangerous to human health, and the recurrence of the death of a number of individuals or organisms in a small area is a reason for suspicion of attacks carried out by users of bioterrorism and its factors that need study and attention.²⁶

The active participation of European initiatives in the field of disarmament also contributed to combating the proliferation of biological weapons. These activities are particularly embodied in the establishment of centers of excellence affiliated with the European Union, which aim to disseminate good European practices in relation to nuclear, radiological, biological and chemical risks.²⁷

Some governmental security organizations, such as Interpol, also contribute to strengthening the capabilities of member states to combat biological threats through three basic elements: prevention, preparedness, and confrontation. A large part of his efforts is spent on facilitating targeted training for law enforcement agencies and national bodies concerned with preventing, preparing for and responding to terrorist attacks involving biological materials. INTERPOL's capacity building and training activities not only aim to establish cooperation at the national and regional levels, but also seek to promote a multi-agency approach. This will lead to stronger cooperation between law enforcement and other sectors, facilitating the exchange of information, the development of common practices and the coordination of joint action. It also works through multiple programs to enhance the capabilities of Member States to take effective measures to contain cases of large-scale outbreaks of epidemics and to maintain public safety in an appropriate manner. This calls for multi-body collaboration and continuous training.²⁸

Our Vision of the Biological Weapons Convention

The essence of the BTW Convention is to exclude any possibility of the use of biological weapons in the manner stated in the preamble to the Convention. Unlike the Treaty on the Non-Proliferation of Nuclear Weapons, the BTW Convention places equal obligations on all States Parties. This Convention, along with the Convention on

²⁶ كيف ظهر تهديد الارهاب البيولوجي وماهي طرق مقاومته؟، موقع تسعة، فبراير 2019، الرابط،

<https://www.ts3a.com/%D8%A7%D9%84%D8%A5%D8%B1%D9%87%D8%A7%D8%A8-%D8%A7%D9%84%D8%A8%D9%8A%D9%88%D9%84%D9%88%D8%AC%D9%8A/>

²⁷ مكافحة الاسلحة البيولوجية، الدبلوماسية الفرنسية، الرابط، <https://bit.ly/3rghT0Z>

²⁸ الارهاب البيولوجي، الانتربول، الرابط، <https://www.interpol.int/ar/4/5/7/3>

the Prohibition of Chemical Weapons, are considered the basis for disarmament treaties, including obligations that include non-proliferation and peaceful cooperation.

Also, according to the Biological and Toxin Convention, all state parties must donate their weapons according to the specified timetable, and no state party to it is allowed to keep biological weapons. The treaty contains a non-proliferation obligation and requires States parties to take the necessary domestic measures to implement their obligations through criminal legislation, providing mechanisms for advice and cooperation to consider complaints, and resorting to international investigative measures in the event of non-compliance.

Otherwise, the reliance of this Convention on the good faith of the party states in implementing and applying their obligations has caused many violations of the principles of this agreement. The harsh lessons learned since 1975 after the Convention's entry into force indicated that this trust is misplaced. Although the preamble to the Convention on Biological and Toxin Weapons stipulates that the use of such weapons is repugnant to humanity, the practices of countries in the twenty-first century have indicated that words are just ink on paper, as the world witnesses the development of biological weapons programs by States Parties to the Convention in different regions of the world.²⁹ For example, in 2001, powdered anthrax spores were deliberately put into letters that were mailed through the U.S. postal system, and it was considered the first bioterrorist attacks against the country. As a result of these attacks, 5 people died, 4 of whom were not targeted. They were not terrorist attacks. . Al-Qaeda topped the list of suspects, but the FBI findings led them to suspect a senior biodefense researcher at the United States Army Medical Research Institute of Infectious Diseases (USAMRIID).³⁰

Also, biological weapons are cheap and do not require soldiers, combat readiness, or training and equipment, as is the case in conventional warfare, but they only need advanced laboratories, and experience in dealing with agents and pathogens. So, major countries often conduct them outside their borders in allied or loyal territories. America's exploitation of Ukrainian lands in the production of advanced biological weapons cannot be ruled out. The US has established factories in a number of cities, most of which are located on the borders with Russia. The destruction of

²⁹ إنشاء منطقة خالية من أسلحة الدمار الشامل في الشرق الاوسط، معهد الامم المتحدة لبحوث نزع السلاح، 2004، الرابط، <https://www.unidir.org/sites/default/files/publication/pdfs/building-a-weapons-of-mass-destruction-free-zone-in-the-middle-east-global-non-proliferation-regimes-and-regional-experiences-arabic-en-544.pdf>
³⁰ كيف تعمل الحرب البيولوجية والكيميائية، العربية نت، 20 مايو 2020، الرابط، <https://bit.ly/3O0ISJO>

headquarters in certain cities reinforces Moscow's narrative about America's use of Ukraine to conduct its biological experiments. According to the government's claim, Russia was one of the reasons for its war on Ukraine since February 2022.³¹

Finally, it can be said that it is very difficult to easily identify the perpetrators of biological war crimes, because the air may carry microbes thousands of miles away to attack individuals in a remote place. There is a great danger to humanity as a whole from the available biological weapons, which are produced in many countries because they are produced in small facilities and can be hidden, their material cost is not exorbitant, and their production does not require complex or modern technology. We are terrified of the development of biological materials that affect humans only, or substances that would negatively affect the physical and mental capabilities, or cause the toxic substance to stick to the genes, leading to potential genocide.

Hence, Maat for Peace, Development and Human Rights and the Global Coalition for the Limitation of Armaments believe that in order to activate the Convention on the Prohibition of the Use of Biological Weapons, some measures must be taken, including:

- 1- Activating assistance and cooperation among countries under Article 7.
- 2- Establishing a voluntary fund for technical cooperation.
- 3- Establishing a mechanism to review developments in science and technology.
- 4- Deepening cooperation in the field of biosafety and biosecurity.
- 5- The Support and Follow-up Unit must be provided with staff to carry out these roles and to enable more flexible decision-making.

Also, the States Parties to the Convention must work to destroy the biological weapons they have and not proceed with their production, especially since some armed actors, especially terrorists, have a special interest in possessing the capabilities of biological weapons, especially in light of the wide availability of advanced scientific and technological tools and methods, which gradually leads to the erosion of barriers that prevent the development of biological weapons.

This paper also stresses the need for a new expert working group to be established to examine possible measures to enhance the implementation of the convention, increase transparency and enhance compliance assurance. This effort must take into account developments in science and technology as well as changes in the nature of

³¹ محمد طنطاوي، هل كانت الاسلحة البيولوجية سببا في غزو أوكرانيا، اليوم السابع ، 14 مارس 2022، الرابط، <https://bit.ly/3M7jwX1>

the threat, as well as the need for effective involvement of civil society organizations in raising awareness of the danger of biological weapons and their negative effects on humanity. We must take action to ensure that advances in the life sciences positively affect people in all countries while reducing the risks posed by their misuse.

Finally, we recommend the need to continue international efforts to reach a complete and comprehensive ban on the production and use of biological weapons, by including in domestic national laws legal rules that prohibit and restrict the use and activation of these deadly weapons. States should also work to suppress and prevent illegal arms trade and unite their efforts in that, especially since arms trade often crosses state borders, in order to prevent terrorists from acquiring them, with the need to prevent the continuous proliferation of weapons of mass destruction and to monitor ways to obtain materials and technologies that can be used in its production.