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# **SILHOUETTE OF BIOLOGICAL WARFARE** **CONVENTION: LEGAL PAUCITY AND DIFFERENT** **ASPECTS IN THE LIGHT OF COVID-19**

AUTHORED BY - PRAGATI SHREYA

## **Abstract**

Weapons of mass destruction that can inflict a variety of harm are known as biological weapons. Worldwide, the use of biological weapons has a significant negative impact on a sizable population. The necessity of creating a convention that forbids the creation and use of such weapons has become increasingly pressing because of technological advancements. Around the world, efforts have been made to stop the threat of biological weapons use. One of the most effective measures in this regard to date has been the implementation of the Biological Weapon Convention, which forbids the development, use, and spread of biological weapons.

One of the examples that will be dealt with in this paper is that, during the pandemic of COVID-19, in China and the West, respectively, there were two widely accepted explanations regarding the origins of COVID-19. One places the blame on the United States, while the other points to a top-tier biocontainment lab in Wuhan, which was the pandemic's original epicenter. There have been reports of biological warfare attempts under both ideas. Based on the current body of scientific knowledge, these assertions are unfounded. China was found to have violated the BWC by manufacturing the virus that caused the COVID-19 pandemic.

However, the rise of these modern conspiracy theories mirrors several long-standing and detrimental trends in the global scene, such as deep mistrust, animosities, the power of ideologies like nationalism, and the sacrifice of truth in propaganda campaigns, much like the biological warfare episodes of the mid-20th century. Furthermore, there are genuine and growing risks from biological warfare, bioterrorism, and unintentional lab viral leaks. Therefore, in the larger context of an impending Cold War II, the international community must urgently build a better global governance of biosafety and biosecurity than what exists at the moment. The author will critically evaluate and analyze the current global position on the matter, emphasizing the necessity of specific amendments to ensure the effective operation of the BWC. They will also go into detail about the key components, operation, implementation, and shortcomings of the Convention.

**Key words:** Biological weapons Biological Weapon Convention (BWC) COVID-19 pandemic origins Global governance of biosafety and biosecurity

## Introduction

The Biological Weapons Convention (BWC), originating from historical instances of biological weapon usage dating back to the 12th century, represents a pivotal global effort for disarmament. Its roots in the Geneva Protocol of 1925 were a response to the dangers posed by chemical and biological weapons during World War I<sup>1</sup>. However, the inadequacies of the Geneva Protocol persisted through subsequent conflicts, necessitating the evolution of the comprehensive Biological Weapons Convention.

Enforced during the modern era, the BWC strives to prevent the storage, development, and usage of biological weapons for hostile purposes. It envisions a world free of these weapons, emphasizing cooperation among member states and due diligence<sup>2</sup>. Despite its noble objectives, the convention grapples with legal gaps and challenges highlighted by recent allegations, especially the controversial theories surrounding the origins of the COVID-19 pandemic.

This article delves into the legal lacunae and loopholes of the BWC, exploring the complexities surrounding definitions, verification mechanisms, accountability, and financial sustainability. Additionally, it scrutinizes historical cases of non-compliance, shedding light on the difficulties in enforcing the convention effectively. Recognizing these challenges, the article proposes enhancements, ranging from a refined verification mechanism to an accountability framework, aiming to fortify the BWC's role in preventing the development and use of biological weapons. In an era marked by geopolitical tensions and evolving biological threats, more robust global governance of biosafety and biosecurity becomes not only a necessity but an urgent imperative.

The usage of biology in weapons dates to the 12th century, with historical instances of biological toxins being employed in conflicts. In the modern era, during World War I, countries initiated the development of biological weapons, leading to allegations of Germany using anthrax or glanders

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<sup>1</sup> Jing-Bao Nie, In the Shadow of Biological Warfare: Conspiracy Theories on the Origins of COVID-19 and Enhancing Global Governance of Biosafety as a Matter of Urgency, (NOV 26, 2023, 1:39 PM) <https://doi.org/10.1007/s11673-020-10025-8>.

<sup>2</sup> Samavi Srivastava and Rounak Doshi, THE BIOLOGICAL WEAPONS CONVENTION: LEGAL LACUNAE AND THE WAY FORWARD IN LIGHT OF COVID-19, <http://www.sconline.com>.

against horses shipped to the Allied powers. Recognizing the dangers, the League of Nations introduced the Geneva Protocol in 1925<sup>3</sup>, prohibiting the use of chemical and biological weapons in warfare. However, the Protocol had shortcomings, allowing major powers to reserve the right to use such weapons in retaliation, and neglecting the production and storage aspects.

The inadequacies of the Geneva Protocol persisted in World War II and the Vietnam War, prompting the need for a more definitive convention. The Biological Weapons Convention (BWC) emerged, building upon the Geneva Protocol's principles. It prohibits the storage, development, or usage of biological weapons and toxins for hostile purposes, emphasizing due diligence and cooperation among member states. The BWC envisions a world free of biological weapons, requiring the destruction or diversion of existing weapons within nine months of enforcement.

Notably, the BWC's prohibition is not absolute, allowing for prophylactic, peaceful, or protective purposes, and encouraging member states to exchange research and knowledge. Disputes related to convention breaches can be addressed to the UN Security Council for investigation. The BWC relies on state cooperation, holding review conferences every five years to discuss implementation and plans. Despite challenges and minimal consensus in recent conferences, the BWC gained renewed relevance amid allegations of its violation by China, particularly regarding the intentional manufacturing of the coronavirus. Whether these allegations hold true or not, they underscore legal gaps within the BWC, raising questions about its effectiveness and enforcement mechanisms.

## Research Methodology

This empirical research adopts a multi-faceted methodology encompassing diverse analytical approaches to investigate the Biological Weapons Convention (BWC) and biosafety/biosecurity governance. The research design incorporates the following key elements:

**Literature Review:** A comprehensive literature review forms the foundation of the research, examining existing scholarship on the history and status of the BWC, legal gaps, allegations of

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<sup>3</sup> Jing-Bao Nie, In the Shadow of Biological Warfare: Conspiracy Theories on the Origins of COVID-19 and Enhancing Global Governance of Biosafety as a Matter of Urgency, (NOV 26, 2023, 3:56 PM) <https://doi.org/10.1007/s11673-020-10025-8>.

non-compliance, and suggested improvements. Scholarly articles, books, official documents, and reputable news sources are systematically reviewed to establish a robust understanding of the subject matter.

**Case Studies:** Utilizing a qualitative approach, the research integrates case studies such as the Sverdlovsk case, the "Yellow Rain" case, the Cuban allegation, and the Iraq accusation. These cases are examined to elucidate instances of alleged non-compliance with the BWC, providing nuanced insights into the real-world challenges and deficiencies associated with convention enforcement.

**Content Analysis of Conspiracy Theories:** To capture the contemporary context, the study conducts a content analysis of conspiracy theories related to the origins of the novel coronavirus. This involves a systematic examination of claims, sources, and international reactions, aiming to discern the impact of these narratives on global perceptions and their potential influence on biosafety/biosecurity governance.

**Proposal Analysis:** The research methodology includes a rigorous analysis of proposed alterations and additions to the BWC. This analysis assesses the feasibility, implications, and potential effectiveness of suggested changes in fortifying the convention. By critically evaluating proposals, the study contributes valuable insights into enhancing the governance framework surrounding biological weapons.

## Research Gap

Despite the comprehensive coverage of the article, some potential research gaps are apparent:

**Limited Primary Source Analysis:** The reliance on secondary sources, such as scholarly articles and news reports, may limit the depth of primary source analysis. Original documents and statements from key stakeholders could provide additional insights.

**Geographical Bias:** The focus on cases involving major powers (e.g., the United States, the Soviet Union, China) may create a geographical bias. A more diversified analysis of alleged non-compliance cases involving different regions could offer a broader perspective.

Conspiracy Theories' Impact: While the article discusses conspiracy theories, a more in-depth exploration of their impact on public perceptions, international relations, and biosafety governance would be valuable.

**Insufficient Exploration of Alternative Views:** The article predominantly presents a critical perspective on the BWC's effectiveness and gaps. Exploring alternative views or counter arguments could contribute to a more balanced analysis.

**Limited Comparative Analysis:** The research could benefit from a more extensive comparative analysis of biosafety and biosecurity governance mechanisms across different countries and regions.

In addressing these research gaps, future studies could provide a more nuanced understanding of the complexities surrounding biological weapons governance and contribute to the ongoing discourse on global biosafety and biosecurity.

## Research Utility

- 1. Holistic Exploration:** The analysis provides a comprehensive overview of the Biological Weapons Convention (BWC), covering its historical evolution, legal deficiencies, and contemporary challenges.
- 2. Relevance to Global Biosecurity:** By addressing conspiracy theories related to COVID-19's origins, the article contributes to the broader discourse on global biosecurity, making it a valuable resource for policymakers and scholars.
- 3. Critical Evaluation of Legal Shortcomings:** The examination of legal issues within the BWC highlights the need for reforms, offering essential insights for policymakers aiming to strengthen the convention and address inherent limitations.
- 4. Actionable Recommendations:** The proposed improvements section outlines practical steps, including verification mechanisms and accountability frameworks, providing policymakers and advocates with actionable insights for enhancing global governance of biosafety and biosecurity.

## Research objective

1. Evaluate the historical context and evolution of the Biological Weapons Convention (BWC), examining its origins, developments, and inadequacies in addressing biological weapons throughout history.
2. Investigate and analyze the allegations of non-compliance with the BWC, focusing on specific cases such as the Sverdlovsk case, the "Yellow Rain" case, the Cuban allegation, and the Iraq accusation. Identify patterns, challenges, and lessons learned from these instances.
3. Examine the legal lacunae and loopholes within the BWC, critically evaluating its articles and provisions. Highlight areas of ambiguity, contradictions, and practical challenges that impede the convention's effectiveness in preventing the development and use of biological weapons.
4. Propose comprehensive and feasible adjustments and additions to the BWC, addressing its shortcomings and enhancing its implementation and efficiency. Explore solutions related to definitions, verification mechanisms, accountability frameworks, confidence-building measures, complaint mechanisms, and financial sustainability to strengthen global governance of biosafety and biosecurity.

## Review of Literature

Jing-Bao Nie in his research delves into the potential consequences of the COVID-19 pandemic, exploring its impact on individuals, families, and nations, while drawing attention to the alarming notion that microbes could pose a threat comparable to nuclear weapons. Focusing on two conspiracy theories surrounding the origins of COVID-19, one involving a Wuhan lab and the other implicating the United States, the article underscores the urgent need for enhanced global governance in biosafety and biosecurity. It emphasizes transparency, trust, and trustworthiness as key ethical values and advocates for a framework rooted in the common good of humanity. The review also delves into historical instances of biological warfare and calls for coordinated international efforts to prevent future pandemics by addressing biosafety concerns in laboratories worldwide.

Samavi Srivastava and Rounak Doshi in their research emphasize the crucial role of Conventions and Protocols, specifically focusing on the Biological Weapons Convention (BWC), in maintaining global peace and stability. It highlights the potential threat of biological weapons and

suggests that the BWC serves as a vital barrier against such risks.

The discussion then shifts to allegations against China, stating that if true, they would constitute a violation of the BWC. However, it acknowledges the challenges in conclusively determining such violations due to the BWC's shortcomings, including secrecy, lack of evidence, and a need for a verification mechanism.

The text concludes by emphasizing the need for improvements to the BWC, particularly the implementation of a verification mechanism to enhance accountability. It stresses collective efforts by states to build trust, address suspicions, and responsibly finance the BWC. The goal is to prevent the misuse of loopholes in the Convention and ensure global security in the face of evolving technology and intelligence.

In summary, the literature underscores the significance of international agreements like the BWC, acknowledges challenges in enforcement, and advocates for necessary improvements to enhance the Convention's effectiveness in safeguarding global security.

## MAIN BODY

### Wuhan's Alleged P4 Laboratory Conspiracy

With a biosafety level-4 (BSL-4) lab, the Wuhan Institute of Virology (WIV) in China was met with international skepticism about its necessity and safety.<sup>4</sup> Pathogen leakage and the possible creation of biological weapons were among the worries. Conspiracy theories linking China's purported covert biological weapons program to the COVID-19 pandemic in 2020 surfaced.<sup>5</sup> This was proposed by an Israeli expert, and Indian researchers subsequently withdrew a preprint paper they had published that claimed the virus had been genetically engineered.

Suspicion continued to grow both abroad and even within China, leading virologist Shi Zhengli to refute any laboratory connection. Though emotionally charged, this response lacked objective proof, and her affiliation with the WIV sparked questions about potential conflicts of interest.

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<sup>4</sup> Rogin, J. 2020. State Department cables warned of safety issues at Wuhan lab studying bat coronaviruses. Washington Post, April 14. <https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/>. (NOV 28, 2023, 11:30 PM)

<sup>5</sup> Myers, S.L. 2020. China spins tale that the U.S. Army started the coronavirus epidemic. The New York Times, March 13 (up-dated March 17). <https://www.nytimes.com/2020/03/13/world/asia/coronavirus-china-conspiracy-theory.html>. (NOV 23, 2024, 11:45 PM)

Independent studies are necessary because mainstream scientific research has ruled out the possibility of a genetically altered virus or bioweapon, but it has left open the possibility of an unintentional lab escape.<sup>6</sup>

The official responses from China stoked mistrust; in February 2020, biological weapons specialist Major General Chen Wei took command of WIV.<sup>7</sup> New regulations that went into effect in April gave COVID-19 origin studies extra scrutiny and approval. The proposal by President Xi Jinping for a biosecurity law and its integration into national security sparked conjecture. While some in the West interpreted it as an implicit acknowledgment of lab origins, others conjectured that it was intended to thwart potential biological warfare attacks by foreign countries.

As a result, the Wuhan lab controversy includes worries about security, allegations of a clandestine program, and conjecture that SARS-CoV-2 originated in a lab.<sup>8</sup> Even though genetic engineering claims have been refuted by science, there is still a chance of an unintentional lab escape that needs to be investigated independently. The matter remains unresolved because of China's official responses and actions, which have stoked more doubts and interpretations throughout the world.

### **The United States: Conspiracy Theory Redux**

There is a conspiracy theory in China that the Seventh World Military Games in Wuhan, where almost ten thousand athletes from more than a hundred countries competed, is the source of the new coronavirus. The theory holds that the virus was purposefully introduced during the games by the United States, which is alleged to be conducting biological warfare against China. The story, which has its roots in historical grievances, capitalizes on xenophobia and anti-Western feelings to revive a previous conspiracy theory about the 2003 SARS outbreak.<sup>9</sup>

The disinformation campaign gained momentum on the Chinese social media platform WeChat,

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<sup>6</sup> Rogin, J. 2020. State Department cables warned of safety issues at Wuhan lab studying bat coronaviruses. (DEC 8, 2023, 12:45 PM) <https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/>.

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<sup>9</sup> Jing-Bao Nie, In the Shadow of Biological Warfare: Conspiracy Theories on the Origins of COVID-19 and Enhancing Global Governance of Biosafety as a Matter of Urgency, (DEC 9 2023, 1:39 PM) <https://doi.org/10.1007/s11673-020-10025-8>.

where it spread a message highlighting the parallels between the ongoing trade war between the US and China, the timing of the military drills, and the virus outbreak.<sup>10</sup> According to the message, the US government is planning to use the virus as a biological weapon against the people, politics, and economy of China.

The theory fits China's official narrative, abdicating accountability for the pandemic's origins even in the absence of scientific proof. Interestingly, the Chinese government appears to have orchestrated disinformation based on its endorsement and promotion of the theory on WeChat, a platform that it closely monitors. The theory is also central to a propaganda campaign that aims to change the way the world views China's response to COVID-19 by highlighting its achievements in contrast to perceived shortcomings in the West. Globally, the theory gained traction on Twitter when Zhao Lijian, a spokesman for the Chinese Foreign Ministry, proposed that the virus may have been brought to Wuhan by US army personnel. Concurrently, the United States, spearheaded by President Trump, labeled the virus as the "China virus," exacerbating tensions and worsening bilateral ties between the two countries, alluding to a "New Cold War" situation.

### **Strengthening International Oversight of Biosafety and Biosecurity: An Imperative Task**

The potential misuse of biological agents in the twenty-first century highlights the need for a more robust global governance of biosafety and biosecurity. The current frameworks, like the Biological Weapons Convention (BWC) and the Geneva Protocol of 1925, are not sufficiently effective in monitoring and verifying their provisions, leaving the international community ill-prepared to regulate the development of biological weapons.<sup>11</sup>

In the past, to develop biological weapons, major powers like Japan, the US, the UK, France, and the USSR participated in covert state-sponsored virology and bacteriology research projects.<sup>12</sup> Even though biological weapons have not shown to be as successful as nuclear bombs, recent developments in biology have increased their potential. Because of their high potency, low

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<sup>10</sup> Jenni Rissanen, The Biological Weapons Convention, nuclear threat initiative (DEC 10, 2023, 09:00 AM), <https://www.nti.org/analysis/articles/biological-weapons-convention/>.

<sup>11</sup> Robert Lee Hotz, Anthrax Deaths Tied to Soviet Lab : Biological warfare : Finding by U.S., Russian researchers raises possibility that an international treaty was broken in 1979 outbreak that killed 68 people, the Los Angeles Times, (DEC. 10, 2023, 10 00 AM), <https://www.latimes.com/archives/la-xpm-1994-11-18-mn-64333-story.html>.

<sup>12</sup> Samavi Srivastava and Rounak Doshi, THE BIOLOGICAL WEAPONS CONVENTION: LEGAL LACUNAE AND THE WAY FORWARD IN LIGHT OF COVID-19, (DEC 11, 2023, 1:56 PM) <http://www.scconline.com>.

visibility, accessibility, and ease of delivery, biological weapons pose a serious threat.

Safety problems in high-level biocontainment labs have increased worries about biosafety and biosecurity. Events such as the 2019 closure of the U.S. Army Medical Research Institute of Infectious Diseases at Fort Detrick and localized outbreaks brought on by pathogen escapes highlight the dangers connected to these kinds of establishments. The urgency is increased by the absence of an international body in charge of biosafety and biosecurity worldwide.

International cooperation in addressing these challenges is threatened by political and ideological forces, particularly considering the impending "Cold War II" between the United States and China. Paradoxically, a higher form of global governance for biosafety and biosecurity becomes urgently necessary precisely because of these destabilizing factors. International cooperation is needed to stop man-made pandemics and make sure that biological research is used responsibly, especially in high-security labs that handle dangerous pathogens like the coronavirus and the Ebola virus.

### **Gaps and Ambiguities in the Biological Weapons Convention**

Based on the ideas of the Geneva Convention, the Biological Weapons Convention (BWC) is a major step towards international disarmament. However, several innate flaws prevent it from reaching its full potential.

One of the primary obstacles to the effective implementation of the BWC is the absence of a precise definition for "weapons, equipment, or means of delivery" in Article I of the convention. The uncertainty is highlighted by Switzerland's unilateral reservation regarding the definition of a biological weapon.<sup>13</sup> The "dual-use dilemma" adds to the complexity of an already complex world by making it harder to discern between applications that are harmful or beneficial.

The second restriction is found in Article I, which only forbids the use of biological weapons in hostile contexts while permitting the use of poisons or other agents for defensive, preventative, or peaceful purposes<sup>14</sup>. Distinguishing between research intentions is controversial, particularly when dealing with biological toxins that are required for the development of vaccines, protective

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<sup>13</sup> Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, Art. 1 (1972), 1015 U.N.T.S. 163.

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gear, and antidotes. Verification measures such as those suggested by VEREX and the Ad-Hoc group were not successful in addressing this<sup>15</sup>. As a result, there is no legally-binding verification process in place to guarantee compliance.

The third disadvantage has to do with responsibility. The government has started an accountability framework, but reports on national compliance are voluntary and inconsistent. The BWC does not require disclosure of the possession of prohibited weapons, biological agent research, or the use of toxins in non-prohibited activities.<sup>16</sup> The BWC depends on voluntary submissions and cooperation since it lacks external organizations with the legal authority to verify information.

Fourth, there is a dilemma brought about by the conflict between Articles 3 and 10. These articles contradict each other because "hostile purpose" is not universally understood. In addition, the technological divide between developed and developing countries has been exacerbated by Article 10's encouragement of cooperation in technology exchange. In contrast to the objectives of the convention, this has impeded economic growth in developing nations.

The fifth problem stems from nations' unwillingness to divulge details about their military installations. International politics prevent meaningful cooperation, which breeds suspicion and charges of violations that could lead to the development of offensive or defensive weaponry programs.

The last and sixth issue relates to member state negligence and the scarcity of funds. The BWC's ability to operate has been impacted by financial difficulties brought on by persistent non-payment and delayed contributions. Debt accumulation as of 2018 surpassed \$130,000, jeopardizing the convening of meetings and the Implementation Support Unit (ISU).<sup>17</sup>

Therefore, the BWC has obvious flaws even though it is a commendable attempt towards global

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<sup>15</sup> Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, Art. 1 (1972), 1015 U.N.T.S. 163.

<sup>16</sup> Samavi Srivastava and Rounak Doshi, THE BIOLOGICAL WEAPONS CONVENTION: LEGAL LACUNAE AND THE WAY FORWARD IN LIGHT OF COVID-19, (DEC 19, 2023, 2:00 PM) <http://www.sconline.com>.

<sup>17</sup>U.N. BWC, Elements of a Decision on Measures to address the Financial Predictability and Sustainability of the Convention, U.N. Doc. BWC/MSP/2018/CRP. 1 (DEC 22, 2023, 11:00 AM).

disarmament. Its efficacy is hampered by ambiguous definitions, the "dual-use dilemma," the lack of a legally binding verification mechanism, articles that contradict one another, hesitation in disclosing information, and financial difficulties. For the BWC to effectively prevent the development and use of biological weapons, these issues must be addressed.

### **Accusations of Non-Compliance**

Since the Biological Weapons Convention (BWC) was put into effect, there have been many claims of non-compliance, which has resulted in notable cases that show the difficulties in enforcing the Convention.<sup>18</sup> In the 1980 Sverdlovsk case, an anthrax outbreak connected to a Soviet facility led to American accusations that the Soviet Union was engaged in an aggressive biological weapons program.<sup>19</sup> The Soviet account was initially dismissed despite extensive international meetings, and Russian authorities did not acknowledge violating the BWC until the Soviet Union's dissolution in 1992.

Based on the claimed use of Trichothecene Mycotoxins, the Soviet Union was accused in the 1981 "Yellow Rain" case of violating the BWC and the Geneva Protocol.<sup>20</sup> However, because of discrepancies in laboratory results, the validity of the evidence was called into doubt, and the case was viewed with suspicion.

In 1997, the United States faced accusations of biological aggression from Cuba following the release of an unidentified mist by a crop-spraying plane. Following investigations, most of the States Parties rejected the claims because there was insufficient evidence to substantiate Cuba's claims.<sup>21</sup>

Iraq was accused by the United States and the United Kingdom in 2002 of not adhering to the BWC, stating that it had a biological weapons program even though it had stopped in 1991.

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<sup>18</sup> Robert Lee Hotz, Anthrax Deaths Tied to Soviet Lab : Biological warfare : Finding by U.S., Russian researchers raises possibility that international treaty was broken in 1979 outbreak that killed 68 people, the los angeles times, (DEC 22, 2023, 11:30 AM), <https://www.latimes.com/archives/la-xpm-1994-11-18-mn-64333-story.html>.

<sup>19</sup> Keeping an eye on Russia, the new york times magazine, (DEC 22, 2023, 12:30 AM), <https://www.nytimes.com/1981/11/29/magazine/keeping-an-eye-on-russia.html>.

<sup>20</sup> Samavi Srivastava and Rounak Doshi, THE BIOLOGICAL WEAPONS CONVENTION: LEGAL LACUNAE AND THE WAY FORWARD IN LIGHT OF COVID-19, (DEC 23, 2023, 12:40 PM) <http://www.sconline.com>.

<sup>21</sup> Jenni Rissanen, The Biological Weapons Convention, nuclear threat initiative (DEC 24, 2023, 09:00 AM), <https://www.nti.org/analysis/articles/biological-weapons-convention/>.

Suspicion arose from Iraq's lack of cooperation and refusal to provide details, prompting the United Nations Security Council (UNSC) to act and pass resolutions requesting greater transparency<sup>22</sup>.

The fact that the BWC's complaint procedure has never been used despite these instances indicates difficulties in effectively enforcing the Convention's prohibitions against violations. These incidents highlight the BWC's need for reforms and improvements to increase its efficacy in accomplishing the objective of total disarmament.

## IMPROVISATION OF THE BWC

To improve the effectiveness and efficiency of the Biological Weapons Convention (BWC), several changes and additions are suggested to address its shortcomings. One of the main obstacles is the inability to distinguish between the benign and harmful uses of biological agents or poisons. Establishing a verification mechanism akin to the International Atomic Energy Agency (IAEA) can help resolve this ambiguity.<sup>23</sup> The purpose of this agency would be to promote compliance and foster confidence among member states by carrying out safeguard activities like report verification, on-site inspections, and research nature monitoring.

The Canadian proposal of an Accountability Framework brings attention to the accountability issue and proposes holding yearly meetings at which State Parties report on their activities related to biological research to promote consistency and openness. Concerns about Articles 3 and 10's compatibility can be discussed concurrently in these meetings, where major exchanges of biological research supplies, tools, or poisons and agents are declared and supported by reports on their nature and non-lethal applications.

It is advised to use confidence-building measures (CBMs) to promote openness and the development of trust. Prenotifications of biological equipment tests, cooperative training programs, exchange initiatives for sharing research, and on-site visits are all included in these

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<sup>22</sup> John Pike, Biological Weapons Program: History, webmaster (DEC 24, 2023, 11:00 AM), <https://fas.org/nuke/guide/iraq/bw/program.htm>.

<sup>23</sup> IAEA Safeguards Overview : Comprehensive Safeguards Agreements and Additional Protocols, iaea, (DEC 24, 2023, 4:00 PM), <https://www.iaea.org/publications/factsheets/iaea-safeguards-overview>.

measures.<sup>24</sup> The goal of CBMs is to lessen mistrust among member states by differentiating between routine developmental activities and possible threats.

The main objective of reducing the use of biological weapons is found to be threatened by the convoluted complaint process. A revised version of the IAEA's methodology is suggested as a solution to this. The investigation of non-compliance matters would be handled by a new representative body of state parties, which would then report violations to the UN Security Council (UNSC). Notably, to preserve the idea of natural justice, permanent UNSC members would relinquish their right to veto power on matters about investigations.

One major concern is the lack of specific penalties for violating the BWC. A different approach that is in line with the Responsibility of States for Internationally Wrongful Acts calls for reparations in the forms of restitution, compensation, and satisfaction. Issues with financial sustainability that are frequently disregarded in BWC review conferences need to be addressed immediately. Prompt payment of previously assessed contributions, the establishment of a reserve fund funded by voluntary contributions, a contingency fund, and careful budget planning that takes arrears into account before electing citizens to office are some of the measures.

To put it briefly, the changes that have been suggested take a holistic approach that includes financial sustainability measures, accountability frameworks, assurance-building steps, updated complaint mechanisms, and verification mechanisms to enhance the BWC's capacity to stop the spread of biological weapons.

## CONCLUSION

Therefore, fortifying the Biological Weapons Convention (BWC) requires a multifaceted approach. Establishing a robust verification mechanism akin to the International Atomic Energy Agency (IAEA) is pivotal for ensuring compliance, conducting on-site inspections, and fostering confidence among member states. The proposed Accountability Framework, involving annual meetings, enhances transparency in reporting biological research actions, addressing concerns about Articles 3 and 10 compatibilities.

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<sup>24</sup> Jenifer Mackby, BWC Meeting Stumbles over Money, Politics, arms control association (DEC 25, 2023, 11:00 AM), <https://www.armscontrol.org/act/2019-01/news/bwc-meeting-stumbles-over-money-politics>.

Confidence Building Measures (CBMs) further contribute to transparency, distinguishing benign activities from potential threats. Revamping the complaint mechanism by adopting an IAEA-inspired representative body for non-compliance investigations, free from UNSC veto constraints, strengthens the BWC's enforcement.

Addressing the lacuna of specified punishments, the proposal suggests reparations aligned with international law. Urgent attention to financial sustainability, with measures like prompt contributions, contingency funds, and meticulous budget planning, ensures the BWC's operational efficacy.

In essence, these proposed enhancements navigate the complex landscape of biological weapons governance, offering a comprehensive strategy to fortify the BWC's role in preventing the development and use of biological weapons, fostering global security and cooperation.

