

## UNODA Publication Review: "The Biological Weapons Convention at Fifty: Codifying 100 years of efforts to combat biological warfare" - A Timely Chronicle of a Treaty's Enduring Relevance

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As the Biological Weapons Convention (BWC) commemorates its 50th anniversary, the UNODA has released a landmark publication in February 2025, titled “The Biological Weapons Convention at Fifty: Codifying 100 Years of Efforts to Combat Biological Warfare.” More than a celebratory document, this expertly curated anthology offers both a retrospective on a century of efforts against biological warfare and a forward-looking reflection on emerging biosecurity threats. Spanning the evolution of international norms from the Geneva Protocol of 1925 to the adoption of the BWC in 1975, and culminating in the Ninth Review Conference (November–December 2022), the 45-page booklet captures the full scope of the global struggle to prohibit biological weapons. It features contributions from leading experts in biological disarmament, non-proliferation, and global biosecurity, providing historical context and policy insights. As Izumi Nakamitsu, United Nations Under-Secretary-General and High Representative for Disarmament Affairs, aptly states in her forward: “This publication aims to inspire renewed determination for a future in which the use of biological weapons is not only unthinkable but also impossible.”

This volume serves as both a commemoration of progress and a renewed call to action in strengthening international resolve against the misuse of biology. This review aims to examine each paper in this timely publication and provide a brief overview for readers.

**1- “How did the 1925 Geneva Protocol prepare the foundation for the Biological Weapons Convention?” by Dr. Fiona Simpson, Deputy Chief,**

## **Weapons of Mass Destruction Branch, UNODA.**

Fiona Simpson explains how the 1925 Geneva Protocol (The Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other gases, and of Bacteriological Methods of warfare) laid the groundwork for the BWC. She emphasises the historical context, connecting the Protocol not only to the trauma of World War I but also to earlier treaties, such as the 1899 and 1907 Hague Conventions. This approach highlights that the norm against chemical and biological weapons emerged through sustained diplomatic and legal efforts rather than spontaneously. The original title of the protocol underscores its significance and relevance in the development of international arms control.

The invocation of Wilfred Owen's haunting poetry adds emotional weight and humanises the abstract horror of chemical warfare, reinforcing the moral urgency behind these international legal instruments. Importantly, the piece doesn't confine itself to historical analysis. It draws a direct line from the Geneva Protocol to today's security challenges, namely the ongoing absence of enforcement in the BWC and the modern risk environment where advanced biotechnology could be weaponised. The reflection insightfully notes that the Protocol laid the normative groundwork, but that norms alone are insufficient. Institutional mechanisms must follow.

**2-“How did the BWC evolve over the last five decades and establish itself as a key pillar in multilateral disarmament?” Dr. Lise H. Andersen, Post-Doctoral Researcher, Leiden University and Professor Brian Balmer, University College London**

Lise H. Andersen sheds light on the evolution of the BWC over the last five decades since

its inception, and how it established itself as a key pillar in multilateral disarmament. The text clearly states that the BWC should be viewed not merely as a Cold War product, but rather as a long-term development with continuing relevance today. As biowarfare disarmament gained salience in the 1960s, breakthroughs occurred elsewhere in nuclear arms limitation discussions and the signing of the Nuclear Non-Proliferation Treaty (NPT). The foundational talks that led to the establishment of the BWC in the Cold War era are effectively communicated in the text. For instance, the Conference of the Committee on Disarmament in Geneva from 1969 to 1971 negotiated the establishment of the BWC, but with evident shortcomings, such as the lack of a verification mechanism.

The analysis is careful in highlighting both strengths and limitations of BWC as an organisation at the time of its commencement. It also outlines the organisational structure of BWC, which is still not fulfilling the mandates of implementing the convention. Even though the International Support Unit (ISU) had been established under the BWC in 2006 to provide administrative support to the meetings agreed upon by the Review Conference. An essay goes deep into the clauses and regulations of BWC as well as ISU.

Another highlight is the ongoing governance of the BWC, which clearly states that there is a steadily increasing involvement of civil society groups in the BWC, adding further scrutiny. An article also reminds us of the reasons for the continuity of the BWC, such as Deterrence of violations and inducing compliance through the threat of discovery, Reassurance through confirmation that the treaty is being implemented, Channels of communication, more advanced stages of disarmament and finally, the mechanism for

distinguishing between major and minor violations.

**3- "How has the Implementation Support Unit strengthened the BWC since its establishment in 2006?" Mr. Daniel Feakes, Chief, BWC (ISU), UNODA.** The article highlights the workings of the ISU of BWC. It shows its drawbacks since its establishment. For over thirty years, the BWC has operated without a dedicated institutional framework, relying primarily on ad hoc and temporary support from the UNODA. This lack of continuity hindered its effectiveness in implementation and coordination. The establishment of the ISU in 2006, following the Sixth Review Conference, marked a pivotal step in addressing this institutional deficit. Since its launch in 2007, the ISU has played a vital role in supporting BWC implementation, facilitating annual meetings, and managing the submission of Confidence-Building Measures (CBMs). It also administers the Assistance and Cooperation Database and helps developing countries participate more actively. The growing number of CBM submissions and participation in meetings underscores the ISU's success in fostering engagement. However, the ISU still faces structural challenges, including short-term staffing contracts, dependency on voluntary funding, and the need for its mandate to be renewed every five years. These limitations complicate long-term planning and capacity-building. The article concludes that the ISU has proven to be an essential mechanism for the BWC's functionality and growth.

**4- "How will the Ninth Review Conference be remembered, and what impact has it had on future meetings under the BWC?" By Ambassador Leonardo Bencini, Permanent Representative of Italy to the Conference on Disarmament,**

**President of Ninth BWC Review Conference.**

The Ninth BWC Review Conference, held in late 2022, stood out as a rare moment of multilateral progress amid a highly polarised international landscape. Key outcomes included the establishment of a Working Group to explore and develop measures for strengthening the Convention critically, with no topic excluded, including compliance, verification, and the potential for legally binding mechanisms. This marks a bold step toward long-overdue institutional maturity.

The Conference also delivered tangible institutional advancements, notably the creation of mechanisms for international cooperation (Article X) and scientific and technological review, as well as the expansion of the ISU with an additional staff member. These achievements reflect a growing recognition of the need for a more resilient and responsive. The conference's success was also shaped by its inclusive and diverse leadership, with historic levels of gender representation and regional balance that helped foster trust and cooperation among delegates.

As the author himself chaired the ninth review conference of the BWC, he includes his vision for an effective implementation of the BWC. While significant challenges remain, particularly in terms of compliance and verification, the groundwork laid by the Ninth Review Conference provides a viable pathway toward a more robust biological disarmament regime. The widely supported idea of a special conference in 2025 is expected to solidify gains and underscore this momentum. The text provides valuable insights into the Ninth Review Conference, which transformed a moment of global pessimism into a pivotal turning point for the BWC. It was more than just a "glimmer of hope"; it was a necessary course correction.

Now, the challenge is to maintain momentum and deliver meaningful outcomes before the 2027 Tenth Review Conference. The world is watching, and the stakes could not be higher.

**5- “How can the current discussions in the Working Group support States Parties in strengthening the BWC?” By Ambassador Frederico S. Duque Estrada Meyer, Permanent Representative of Brazil to the Conference on Disarmament, Chairperson of Working Group on Strengthening BWC.**

The piece powerfully highlights the convergence of biotechnology and computational sciences, including AI-driven modelling, gene synthesis, and synthetic biology as both a source of groundbreaking innovation and unprecedented risk. It highlights a key vulnerability: the increased accessibility of powerful biotechnologies, which are no longer confined to state actors but now extend to non-state entities and the private sector, often beyond the reach of traditional regulatory frameworks. A standout theme is the urgent need for agile, integrative governance. The article critiques the BWC’s slow institutional response, particularly in comparison to other global fora that have adapted more rapidly to contemporary biosafety and biosecurity concerns. It calls for urgent, concrete action to close the widening gap between technological progress and institutional preparedness. If heeded, its recommendations could help ensure the BWC remains a living, relevant instrument in the age of rapid bio-technological change.

**6- “How can the BWC respond to the rapid advancements in science and technology?” Dr. Filippa Lentzos, Associate Professor in Science and International Security, King’s College**

**London and NGO Coordinator for the BWC.**

This article offers a compelling and urgent analysis of the intersection between modern science and global security, particularly through the lens of the BWC. It examines the historical role of science in warfare and highlights the emerging biosecurity risks associated with the rapid advances in life sciences and biotechnology. The piece argues persuasively that preventing the misuse of biology now demands a multidimensional response. Strengthening the BWC requires not only robust international mechanisms, such as scientific review processes and support for investigations, but also cultural change within the scientific community. Most critically, the article emphasises the need for disarmament diplomacy to move beyond isolated, bureaucratic processes and engage directly with stakeholders in science, technology, and industry. The article powerfully conveys that the future of biosecurity hinges not only on treaties but on a shift in mindset, ethics, and engagement across all sectors of society.

**7- “What lessons have been learned to strengthen the national Implementation of the Convention?” by Dr Janes Mokgadi, Chemical, Biological, Radiological and Nuclear (CBRN) Weapons Management Authority of Botswana, Ministry of Defence Security.**

This article offers a concise yet comprehensive overview of Botswana’s progress in implementing the BWC. Since establishing the CBRN Weapons Management Authority in 2018, Botswana has achieved significant progress in institutionalising BWC obligations. The creation of a National Authority and the designation of a National Contact Point have improved coordination and compliance.



Simultaneously, the enactment of the Biological and Toxin Weapons (Prohibition) Act reflects a strong legislative foundation.

Notably, the article emphasises that legislation alone is insufficient. Botswana's focus on capacity building, awareness, and regional collaboration, particularly through the 1540 National Action Plan, demonstrates a holistic approach. Hosting regional workshops and sharing best practices with countries like Namibia and Zambia highlights Botswana's leadership in Southern Africa. The integration of international support from organisations such as UNODA, the Organisation for the Prohibition of Chemical Weapons, and the Verification Research, Training and Information Centre has played a crucial role in strengthening national capabilities. Notably, the inclusion of women and youth in disarmament dialogues is praised as a progressive step toward inclusive and sustainable security policy.

**8-“How can the next generation of scientists support efforts to reaffirm the shared determination to exclude completely the possibility of using biological agents and toxins as weapons?” Dr. Judith Chukwuebinim Okolo, Assistant Chief Research Officer, National Biotechnology Development Agency and Youth for Biosecurity Fellow, Nigeria**

This article effectively highlights the vital role of education and advocacy in empowering the next generation of scientists to support and strengthen the BWC. It underscores the urgency of engaging young professionals in biosecurity discussions, especially in light of the 2024 “Pact for the Future,” which reaffirms global commitment to eliminating biological weapons. The article emphasises that awareness and ethical training are essential for preventing the

misuse of biotechnology. Programmes like the Youth for Biosecurity Initiative and Youth Champions for Disarmament have already demonstrated success in fostering global collaboration, ethical awareness, and responsible science. Notably, the article draws attention to the Tianjin Biosecurity Guidelines as a practical ethical framework, highlighting the importance of integrating such tools into educational efforts. By equipping young scientists with knowledge and values rooted in biosecurity, these programmes contribute to a broader culture of prevention. Overall, the article delivers a compelling case for sustained investment in youth-focused education and advocacy as a core strategy to uphold the BWC and ensure a biosecure future.

**9- “Is a path opening for discussions on a verification system and the further institutionalisation of the Convention?” Dr. James Revill, Head of Programme, Space Security, Weapons of Mass Destruction and Ms. Maria Garzon Maceda, Project Coordinator, UNIDIR**

This article offers a thoughtful and well-documented analysis of the renewed debate over verification within the BWC, revisiting past failures and current opportunities. It traces the collapse of the 1990s Ad Hoc Group negotiations due to entrenched political differences and U.S. opposition as a cautionary backdrop to today's renewed discussions under the Working Group established by the Ninth Review Conference in 2022.

The piece rightly highlights the resource constraints of the current BWC ISU, which cannot support a meaningful verification regime without significant funding and structural enhancements. Overall, it presents a balanced, forward-looking

perspective on the complex road to verification, emphasising the need for political will, adequate resources, and sustained multilateral engagement to ensure the BWC remains effective in today's rapidly evolving threat landscape.

**10- “How can education and awareness-raising enhance trust or compliance with the BWC?” Dr. Leifan Wang, Mr. Jie Song and Professor Weiwen Zhang, Tianjin University centre for Biosafety Research and Strategy, China.**

This article provides a well-structured and forward-looking overview of the urgent need to reinforce the BWC in the face of rapidly advancing biotechnology. It highlights how dual-use research and accessible biotechnologies pose increasing risks, while national biosecurity frameworks often lag. Central to the discussion is the Tianjin Biosecurity Guidelines, a set of principles designed to promote responsible conduct among scientists and prevent the misuse of biological research. The article effectively argues that scientists, as both innovators and first-line defenders, hold a critical role in upholding biosecurity. It calls for the global adoption of the Tianjin Guidelines and the integration of biosecurity education into national policies, research institutions, and international cooperation efforts. Crucially, the article emphasises that scientific collaboration based on shared ethical standards can foster trust and strengthen BWC compliance. It also offers timely reflections ahead of the BWC's 50th anniversary in 2025.

**Weaknesses and limitations**

While the creation and ongoing support of the ISU is rightly recognised as a key achievement, the publication downplays the importance of its limitations. It briefly

mentions the ISU's tight budget and fragile staffing structure, failing to address what this indicates about the international community's strong commitment to biological disarmament. The publication stops short of critically examining the power politics that have repeatedly undermined verification and enforcement efforts. The US decision to block the 2001 protocol negotiations is mentioned but never questioned. Nor is there a thorough discussion of how veto powers within the UN framework hinder meaningful enforcement of BWC violations.

**Conclusion**

The “Biological Weapons Convention at Fifty” is not just a look back. Instead, it is a challenge issued to the present and a guide for the future. It is essential reading for policymakers, scientists, and anyone invested in a world free from the threat of biological weapons. The publication manages to honour the past and ignite momentum for action, reminding us that treaties, like the science they regulate, must evolve or risk becoming irrelevant. If the publication aimed to spark serious discourse and drive reform,