

Interpreting the Biological Weapons Convention – What are “necessary measures” under Article IV of the Convention?

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Article IV of the Biological Weapons Convention 1972 (BWC) requires States Parties to implement national implementation measures to prohibit and prevent the development, production, stockpiling, retention, acquisition, transfer, and use of biological agents, toxins and weapons in violation of the Convention. No definition of “national implementation measures” is included in the treaty, but there has been over 50 years of State practice in implementing this obligation, which can provide guidance on how States Parties interpret the obligations under Article IV. The Final Declarations agreed by consensus by States Parties at the Convention Review Conferences held every five years are particularly useful tools in understanding what measures are required and what, if any, development there has been in interpreting Article IV. Using legal methods to interpret international treaties, this memo first analyses the obligations set out in Article IV and then considers the interpretative value of the Final Declarations in relation to the BWC. It goes on to highlight a number of measures identified by the States Parties considered necessary in the implementation of the obligations contained in Article IV and important developments in what must be covered.

INTRODUCTION

The Biological Weapons Convention 1972 (BWC) was the first treaty that banned the development, production, stockpiling, or otherwise acquiring or retaining of a whole category of weapons of mass destruction. Negotiated in 1972, it came into force in 1975.¹ There has been over 50 years of State practice in implementing and developing understanding of the requirements in the Convention. At the same time, technology has developed exponentially, resulting in new threats that need to be addressed in the national framework aimed at prohibiting and preventing the development, production, stockpiling, acquisition, transfer, transport, use or retention of the agents, toxins, weapons, equipment and means of delivery specified in Article I BWC.² The BWC is generally considered a success in establishing a strong norm against the development, etc of microbial or other biological agents or toxins that have no justification for prophylactic, protective or other peaceful purposes, and weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.³ There have been relatively few incidents of biological agents and weapons being developed or used in breach of the treaty in comparison to other frameworks regulating weapons of mass destruction.⁴ However, structural weaknesses in the Convention remain.

The lack of verification process in the BWC is a long-standing hindrance in securing the compliance of the States Parties.⁵ The Convention Review Conferences, held every five years with all States Parties to the BWC, have therefore taken on an important role in ensuring the treaty continues to fulfil its aims and that States Parties fulfil their obligations.⁶ The structural weaknesses, however, remain a vulnerability in the system, which some States have exploited so as to undermine the aims of the BWC. Notable in this were the actions of the Russian Federation, among others, which were at the forefront of the Ninth Review Conference held in December 2022.⁷ These actions contributed to the States Parties being unable to reach consensus agreement on the Final Declaration of the Review Conference.⁸ This is only the second time in the history of the Convention that a Final Declaration could not be agreed.⁹

Ensuring that national implementation measures required under Article IV BWC are sufficiently robust is one way to minimise the impact on efforts to frustrate international cooperation in achieving the Convention aims. Effective national implementation measures significantly reduces the risk of unlawful activities in breach of the BWC. It is therefore timely to update our understanding of the obligations contained in Article IV

today. This memo will therefore analyse the obligations contained in Article IV. It will go on to consider the value the Final Declarations have in the interpretation of the treaty and what these documents add to the understanding of the requirements under Article IV.

Interpreting Article IV BWC

Article IV BWC provides:

Each State Party to this Convention shall, in accordance with its constitutional processes, take any necessary measures to prohibit and prevent the development, production, stockpiling, acquisition or retention of the agents, toxins, weapons, equipment and means of delivery specified in Article I of the Convention, within the territory of such State, under its jurisdiction or under its control anywhere.

As a legal obligation contained in a treaty, international legal methods are needed to interpret the requirements under Article IV. The rules relevant to treaty interpretation are contained in Articles 31-33 of the Vienna Convention of the Law of Treaties 1969 (VCLT).¹⁰

The first step is that the treaty must be interpreted in good faith in accordance with the ordinary meaning to be given to the terms in their context and in the light of its object and purpose.¹¹ The context includes the whole text of the treaty, the preamble, any annexes attached to the treaty, any agreement relating to the treaty made between all the parties in connection with the conclusion of the treaty, and any other instrument made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty.¹² A first analysis of these points will be undertaken before considering the further rules relating to treaty interpretation outlined in the VCLT. Article 31(3)(c) of the VCLT provides that other relevant rules applicable in the relations between the parties should also be taken into account in interpreting treaties. Other areas that are relevant include international human rights law (IHRL), international health regulations, international legal obligations relevant to terrorism, international humanitarian law (IHL), other disarmament and arms trade treaties and international environmental law.¹³ It is unfortunately beyond the scope of this memo to go into detail on this, but where relevant some initial observations are made.

Breaking down the terms of Article IV BWC

The term “shall” indicates that this is an obligation that States must implement in order to comply with the international obligations set out in Article IV BWC. Failure to introduce necessary measures would be a breach

of Article IV BWC and as such, the State would incur international responsibility for failing to do so.¹⁴ The use of the conjunctive “and” indicates that this is both an obligation to prohibit and a further obligation to prevent. Both prohibitive and preventative measures are therefore necessary to uphold Article IV BWC.¹⁵

The reference to the necessary measures being adopted in accordance with State Party’s own constitutional processes is a reflection of the different legal systems found throughout the world. The requirement that measures are introduced in accordance with constitutional measures is also an important indirect reference to requirements of legality, foreseeability, and rights of individuals in relation to the execution of State power.¹⁶ This is particularly critical for the obligation to prohibit, discussed below.

The obligation is not to adopt “all” necessary measures. The term “any” provides flexibility and discretion to the State Party in the adoption and implementation of measures to prohibit and prevent the development, etc of toxins, agents and weapons for the purposes covered by Article I BWC. Again, this is a recognition that States Parties have very different legal systems, so the measures necessary to prohibit and prevent the acts covered in Article IV will not necessarily be the same in each State. The State Party would therefore need to demonstrate that it has taken measures necessary further to Article IV BWC.

What is “necessary” must be understood in light of the purpose of the treaty of “*effective progress* towards general and complete disarmament, including the prohibition and elimination of all types of weapons of mass destruction” (emphasis added).¹⁷ “Necessary” measures are therefore those measures that are “effective” in prohibiting and preventing toxins, agents, weapons and their means of delivery in breach of Article I BWC. This link with national measures strengthening the “effectiveness” of the Convention was also emphasised at the Sixth, Seventh and Eighth Review Conferences.¹⁸ What is “necessary” today is not the same as 50 years ago. As such, “necessary measures” will need to be continuously reviewed and updated so as to address the threats and risks relevant to today in order to be effective.¹⁹

The treaty text lists the acts of “development, production, stockpiling, acquisition or retention” of toxins, agents, weapons, equipment and means of delivery specified in Article I as those that must be prohibited and prevented. This covers a broad range of activities from the earliest stages in development through to the final stages in retaining (i.e. simply possessing) agents, toxins and materials in contravention to Article I BWC and anything in between. Article IV BWC cannot therefore be understood without reference to Article I.

The obligations in Article X also have an important relation to Article IV. Article X relates to the exchange of equipment, materials and scientific and technological information for the use of bacteriological (biological) agents and toxins for peaceful purposes. The activities covered in Article X should therefore not be prohibited and prevented under Article IV.

The jurisdictional reach of the measures required by Article IV broadly reflects the different ways a State's jurisdiction may be engaged under international law, but is interesting in that these different ways are explicitly listed.²⁰ As such, it is set out clearly within Article IV that States should introduce necessary measures more broadly than just within their territory, where States enjoy the greatest sovereign power and jurisdiction. Article IV reflects that States may extend the application of their legislation to persons, property and acts outside their territory unless there is a rule under international law that prohibits the State from doing so.²¹ In addition, the Article reflects that a State's jurisdiction may also be engaged if the State exercises control over territory, authority over persons in another State's territory, or produces effects outside its own territory.²² For example, a State's jurisdiction may be activated where it exercises effective control over another's

State's territory through military operations, such as situations of occupation.

Interpreting Article IV BWC in light of subsequent agreements and practice

According to the VCLT Article 31(3)(a) and (b), any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions, and any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation shall also be taken into account.²³ This is in addition to the context of the treaty.

The Final Declarations adopted by consensus by the States Parties at the Convention Review Conferences held every five years are of great significance in respect to VCLT Article 31(3)(a) and (b). The Final Declaration is included in the Final Document, which outlines the whole conference proceedings and is also agreed by consensus of the States Parties. The Final Declaration often reaffirms commitments included in the BWC and sets out the understandings of the obligations contained therein. The Final Declarations are not a treaty or legally binding in themselves, but are important documents in the interpretation of the obligations contained in the BWC.



Figure 1. Switzerland; Geneva; March 9, 2018; Two rows of the United Nations member states flags with the United Nations Office in Geneva in the background. The picture is slightly cropped.

Source: Shutterstock

The fact that the States Parties adopt the Final Declarations by consensus is important.²⁴ This indicates common understanding and agreement by all the States Parties to the contents of the Final Declarations. They are thus an authentic interpretation of the BWC.²⁵ The context of the Review Conference in which States Parties review compliance with the Convention in light of recent developments is further relevant to this understanding.²⁶ These Review Conferences provide a framework for continuous development in the understanding and practice of the treaty.²⁷ There have only been two Review Conferences where a Final Declaration was not adopted at the close of proceedings.²⁸ The fact that the Final Declarations are not a formal treaty amendment is not problematic in itself. The key is that the text demonstrates agreement in substance between the States Parties on the interpretation of the treaty.²⁹ Where text is repeated in the Final Declarations from several Review Conferences relating to a specific Article, this adds further weight that it is evidence of the States Parties interpretation of that treaty obligation.³⁰

In its “Draft Conclusions on Subsequent Practice”, the UN’s International Law Commission (ILC) gives the additional understandings and agreements set out in the Final Declarations as an example of subsequent agreements for the purposes of VCLT Article 31(3). The ILC considered that through these understandings, States parties interpret the provisions of the Convention by defining, specifying or otherwise elaborating on the meaning and scope of the provisions, as well as through the adoption of guidelines on their implementation.³¹

The distinction between subsequent agreements and subsequent practice is not always exactly clear³² and certain parts of the Final Declarations may also be classified as subsequent practice for the purposes of Article 31(3). Indeed, the BWC’s Implementation Support Unit’s definition of “additional agreements *and* understandings” (emphasis added) that “(a) interprets, defines or elaborates the meaning or scope of a provision of the Convention; *or* (b) provides instructions, guidelines or recommendations on how a provision should be implemented” is indicative of this.³³ Subsequent practice is broader than subsequent agreements, and can include documents, arrangements and actions expressing an understanding of the treaty, as well as national legislation and other domestic instruments and the interpretation of national courts, among others.³⁴

The Final Declarations are therefore an important tool to understanding how States Parties understand and interpret their obligations under the BWC. As different parts of the Final Declarations agreed by the States Parties

will have different legal effects, it is therefore necessary to analyse the terms of the Final Declarations relevant to Article IV to determine their interpretative status.

Developments in interpreting “necessary measures” under Article IV BWC from the Final Declarations of the BWC Review Conferences

The Final Declarations have re-emphasised that it is an obligation of States Parties to introduce national measures and that these should be “effective” in prohibiting and preventing the acts covered by Article I BWC.³⁵ As such, no definitive list can be provided as what is “necessary” to be “effective” and this will vary depending on the constitutional processes of the State in question and the threat to be addressed, among other things. That said, the Final Declarations provide some indications of what is required to implement Article IV BWC.

Formal regulation

Considerable emphasis has been placed in the Final Declarations on formal regulation as necessary measures under Article IV BWC. This includes “legislative, administrative and other measures designed to enhance domestic compliance with the Convention”.³⁶ The Sixth, Seventh and Eighth Review Conferences added “judicial” measures and “penal legislation” to this understanding.³⁷

Penal legislation is most appropriate for implementing the obligation to prohibit. This is in accordance with the basic principles of criminal law according to which individuals must be able to reasonably foresee that their conduct would be criminal before undertaking it, and the prohibition against retroactive application of criminal law.³⁸ Penal legislation is also necessary to implement the obligation to prevent, but more is required. This includes legislation “regarding the physical protection of laboratories and facilities to prevent unauthorised access to and removal of microbial or other biological agents, or toxins”.³⁹ Legislative, administrative, judicial and other measures, including penal legislation, designed to “...ensure the safety and security of microbial or other biological agents or toxins in laboratories, facilities, and during transportation, to prevent unauthorized access to and removal of such agents or toxins” should also be implemented.⁴⁰ This would therefore require a range of regulatory measures and a range of State authorities to implement fully. In relation to the jurisdictional scope of the measures required under Article IV BWC, the Third, Fourth, Sixth, Seventh and Eighth Review Conferences indicate that national measures should be applicable to actions taken anywhere by natural persons possessing its nationality.⁴¹ This is caveated that

this must be in conformity with international law and only if constitutionally possible.⁴² The jurisdictional scope of domestic criminal legislation tends to be limited to crimes committed on or from the territory of State, due to the international legal norms of sovereignty and prohibition of non-interference.⁴³ It is possible for States to introduce domestic criminal legislation for the actions of their citizens abroad where this does not conflict with other norms under international law.⁴⁴ An example of this is Swedish legislation on the purchase of sex.⁴⁵ However, it would generally be an infringement on another State's sovereignty to legislate in relation to the actions of citizens of another State in that State's territory.⁴⁶ That this relates to the actions of natural persons possessing the State Party's nationality is also interesting, as individuals can be permanently resident or otherwise permitted to live in States without possessing that State's nationality, and individuals may possess multiple nationalities, giving rise to interesting questions of jurisdiction and mutual assistance in criminal matters.

The limitation to the acts of natural persons is also noteworthy and is a recognition that not all States include criminal liability for legal persons.⁴⁷ In all States, natural persons (i.e. people) can commit crimes. Some States have also extended criminal liability for certain crimes to legal persons (i.e. companies and organisations), such as corporate manslaughter or criminal negligence.⁴⁸ However, this is not the case in all States, including Sweden. Where

this is not the case, other administrative measures, such as fines, and civil claims may be possible to bring against a company instead. In Sweden, for example, natural persons connected with the operations of the corporation, such as representatives or employees, may be held criminally liable for criminal acts connected with the operations of the corporation. The corporation may be subject to corporate fines in conjunction with criminal proceedings against individuals, but corporations cannot commit criminal acts.⁴⁹ This is important to note in relation to the measures necessary under Article IV BWC.

Detection

The Sixth, Seventh and Eighth Review Conferences reaffirmed “the commitment of States Parties to take the necessary national measures to strengthen methods and capacities for surveillance and detection of outbreaks of disease at the national, regional and international levels.”⁵⁰ The Third Review Conference also stressed that “States Parties should take all necessary safety precautions to protect populations and the environment in relation to activities *not prohibited by the Convention*” (emphasis added).⁵¹ Disease surveillance and detection is therefore a part of the necessary measures under Article IV and linked to prevention of the development, production, etc of agents and toxins for purposes covered by Article I. These are technically separate fields, as the Convention is concerned with the use and weaponisation of these biological toxins

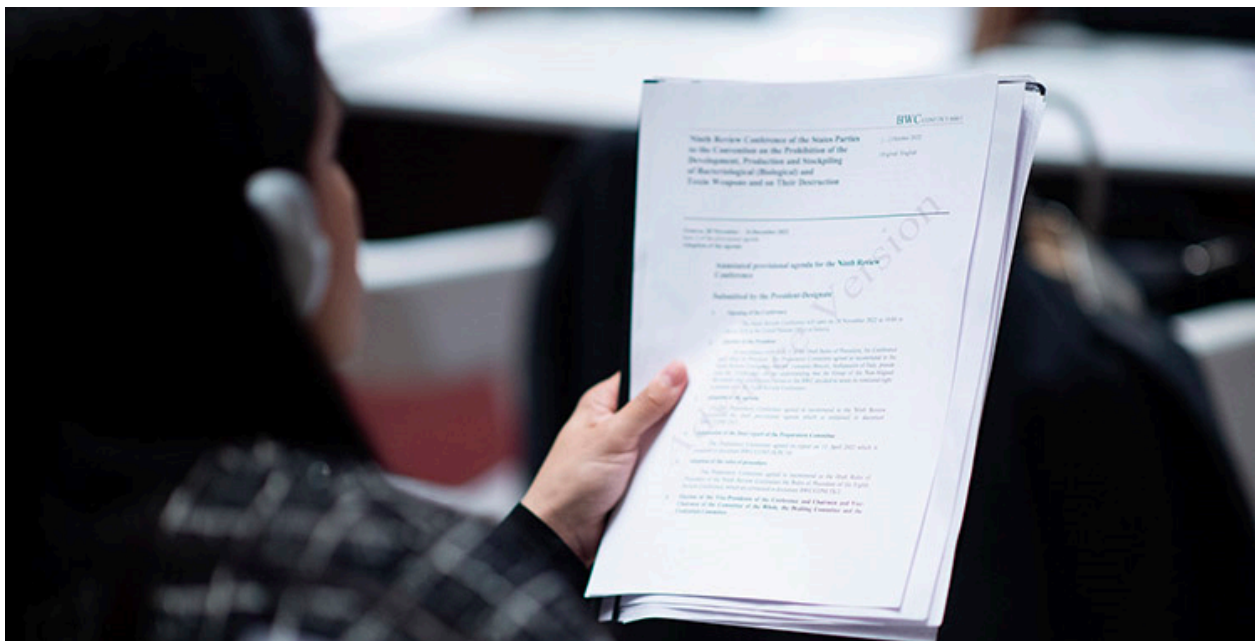


Figure 2. Ninth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, Palais des Nations.

Source: UN photo by Violaine Martin

and agents in armed conflict or for hostile purposes, rather than the obligations under international law to prevent the spread of diseases.⁵² These obligations stem from other fields of international law, namely IHRL and international environment law. Although these measures are on a cursory review complimentary, further research in this area would be useful to determine the exact parameters between these different legal fields. It should also be noted that only including disease detection measures would not be sufficient to fulfil the obligations under Article IV BWC. This is particularly relevant to the obligation to prohibit which requires criminal legislation to be implemented.

Self-regulation

In addition to formal regulation, the States Parties have highlighted implementing voluntary management standards on biosafety and biosecurity in the Seventh and Eighth Review Conferences as a national implementation measure under Article IV.⁵³ This includes encouraging the promotion of a “culture of responsibility amongst relevant national professionals and the voluntary development, adoption and promulgation of codes of conduct”.⁵⁴ The importance of codes of conduct and self-regulatory mechanisms in raising awareness was also recognised in the Sixth Review Conference, in which States Parties were encouraged to develop, promulgate and adopt such measures.⁵⁵ States Parties should also appeal to their scientific communities to lend their support “only to activities that have justification for prophylactic, protective and other peaceful purposes, and refrain from undertaking or supporting activities which are in breach of the obligations deriving from provisions of the Convention.”⁵⁶ This is a further interesting reminder that whilst the obligation is addressed to the States Parties, it requires more than just regulation.

Education and training

Education and training have also been highlighted as “necessary measures” under Article IV BWC. This includes measures to “promote amongst those working in the biological sciences awareness of the obligations of States Parties under the Convention”, alongside national legislation and guidelines.⁵⁷ States Parties have also “urged” the inclusion in “medical, scientific and military educational materials and programmes of information on the Convention and the 1925 Geneva Protocol”.⁵⁸ States Parties are also urged to develop training and education programmes for those “granted access to biological agents and toxins relevant to the Convention” and those “with the knowledge or capacity to modify such agents” in

order to raise awareness of the risks and the obligations of States Parties under the Convention.⁵⁹ These observations are interesting in light of the obligation of States under customary international law to disseminate information on IHL, including providing instruction to their armed forces and encouraging the study of IHL by the civilian population.⁶⁰

Reporting nationally

Reporting is a further “necessary measure” under Article IV. The value of “promoting awareness amongst relevant professionals of the need to report activities” conducted within the jurisdictional scope of the Convention “that could constitute a violation of the Convention or related national criminal law” is also noted and encouraged by States Parties.⁶¹ Who reporting should be made to will depend on a range of factors, including what the issue concerns (e.g. criminal conduct, industry regulation, transport requirements, etc) and the constitutional framework of the State involved.⁶²

State reporting on national measures

States Parties have been “encouraged” in the Final Declarations to “designate a national focal point for coordinating national implementation of the Convention and communicating with other States Parties and relevant international organizations”.⁶³ This is a formal requirement under Article VII(4) Chemical Weapons Convention (CWC), but not included in the treaty text of the BWC. The statements in the BWC Final Declarations therefore appear to be aimed at addressing the structural issues in light of subsequent developments. Although the term “encouraged” used in the Final Declarations might indicate that this is not an obligation, the continued calls for such action have developed to such an extent that the United Nations Office of Disarmament Affairs (UNODA) indicates that States Parties “should” designate or establish a national focal point.⁶⁴ A report from a meeting of experts on strengthening national implementation of the BWC in 2019 noted that 122 States Parties had designated a national point of contact, as had two signatory States, three States not party to the Convention and one regional organisation.⁶⁵ The report noted a continuous and steady increase in this practice since the Sixth Review Conference,⁶⁶ reinforcing the understanding this is required under Article IV BWC.

The Review Conferences have similarly continuously encouraged States Parties to provide appropriate information on national implementation measures taken to the UNODA, including texts of legislation and other measures

implemented.⁶⁷ This is again a formal requirement under Article VII(5) CWC, in contrast to the treaty text of the BWC.⁶⁸ The continued calls for such actions indicate that this is also understood by States Parties as a requirement under the BWC. The Sixth, Seventh and Eighth Review Conferences noted in this regard “that information provided to the United Nations by states in accordance with Resolution 1540 may provide a useful resource for States Parties in fulfilling their obligations under [Article IV].”⁶⁹ UN Security Council Resolution 1540 (2004) concerns measures aimed at preventing non-State actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes. Paragraph 4 of Resolution 1540 calls on States to submit a first report no later than six months from the adoption of this resolution on steps they have taken or intend to take to implement this resolution to the Committee established in the Resolution.⁷⁰ Subsequent resolutions passed by the Security Council encourage States to provide additional information on their implementation of Resolution 1540.⁷¹ Further research into the relationship between the two legal instruments would be useful in understanding how these obligations relate to the obligations under Article IV BWC.

States Parties have also encouraged “cooperation and initiatives, including regional ones, towards the strengthening and implementation of the Biological and Toxin Weapons Convention regime”.⁷² Regional knowledge sharing is relevant in a Swedish context in light of the similarities in legal traditions between Nordic States. It is also relevant within the EU.

Article IV BWC does not explicitly include requirements that States Parties cooperate with each other or provide assistance. However, the Sixth Review Conference urged States Parties “with relevant experience in legal and administrative measures for the implementation of the provisions of the Convention, to provide assistance on request to other States Parties.”⁷³ The Seventh and Eighth Review Conferences also encouraged “those States Parties, in a position to do so, to provide assistance, upon request, to other States Parties.”⁷⁴ These provisions are interesting in contrast to the more explicit requirements included in the text of the CWC, which imposes specific obligations on States Parties to cooperate with other States Parties alongside the obligation to introduce national implementation measures.⁷⁵

Developments in the interpretation of Article I BWC from the Final Declarations

As noted above, that which must be prohibited and prevented further to Article IV BWC is defined in Article I BWC. As such, it is also necessary to understand developments to Article I BWC agreed by the States Parties in the Final Declarations to understand what is required under Article IV BWC.

The treaty text of Article I BWC provides:

Each State Party to this Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain:

- (1) Microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective 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.

No list of microbial or other biological agents is provided in the definition or annexed to the Convention. This is again in contrast to the framework established under the CWC, which defines toxic chemicals and their precursors in Article II(1)(a), Article II(2) and Article II(3) CWC. Toxic chemicals and their precursors that have been identified for the application of the verification measures are listed in Schedules annexed to the CWC.⁷⁶ The definition approach in the BWC impacts on how States Parties introduce criminal legislation further to Article IV BWC.

The Second Review Conference clarified that both “proteinaceous and non-proteinaceous” toxins of a “microbial, animal or vegetable nature and their synthetically produced analogues are covered”.⁷⁷ The Third and Fourth Review Conference provide that the microbial or other biological agents or toxins that are harmful to humans and those that are harmful to plants and animals are covered by Article I BWC.⁷⁸ The Second, Third and Fourth Conference reaffirmed that the Convention “*unequivocally covers* all microbial or other biological agents or toxins, naturally or artificially created or altered, as well as their components, whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes” (emphasis added).⁷⁹ These Conferences also reaffirmed that the possible developments and use of “relevant scientific and technological developments” in the fields of “microbiology, genetic engineering and

biotechnology...for purposes inconsistent with the objectives and the provisions of the Convention” are also covered by Article I.⁸⁰ The Fourth Review Conference added “molecular biology...and any applications resulting from genome studies” to this list.⁸¹ The Third, Fourth, Sixth, Seventh and Eighth Review Conferences have also provided interpretive clarity that “experimentation involving open-air release of pathogens or toxins harmful to humans, animals and plants that have no justification for prophylactic, protective or other peaceful purposes” falls within the definition of Article I BWC.⁸² These declarations have not necessarily expanded the scope of Article I BWC, but rather provide interpretative clarity that these are included under Article I BWC.

There has been some debate as to whether biological agents and toxins produced through synthetic biology would be included within the provisions of Article I BWC.⁸³ The treaty text explicitly provides that the origin or method of production is immaterial, so long as it is a microbial or other biological agent or toxin of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes.⁸⁴ In addition, the Second Review Conference also noted that “synthetically produced analogues” of toxins were covered by Article I.⁸⁵ The Sixth, Seventh and Eighth Review Conferences reaffirmed “that the Convention is comprehensive in its scope”, “regardless of their origin and method of production and whether they affect humans, animals or plants.”⁸⁶ Furthermore, the Second Review Conference stated that “the scope of Article I covers scientific and technological developments relevant to the Convention”⁸⁷ and the Sixth, Seventh and Eighth Review Conference reaffirmed that Article I applies to “all scientific and technological developments in the life sciences and in other fields of science relevant to the Convention.”⁸⁸ It is therefore clear that microbial or other biological agents or toxins synthetically produced would fall within the scope of Article I BWC. As such, national implementation measures under Article IV must cover these as well.

The “use” of biological agents, toxins and weapons for hostile purposes or in armed conflict is not explicitly listed in treaty text of Article I BWC. The use of bacteriological methods of warfare is covered in the 1925 Gas Protocol and the prohibition of the use of materials covered by Article I BWC is a principle under customary international law.⁸⁹ It is now also clear from the Final Declarations of the Review Conferences that the States Parties interpret and understand Article I BWC to include use, alongside the development, production, stockpiling or otherwise acquiring or retaining.⁹⁰

Not all uses of biological agents, toxins and equipment are prohibited under the BWC. It is only the development, etc of microbial or other biological agents or toxins that have “no justification for prophylactic, protective or other peaceful purposes” and equipment and means of delivery “for hostile purposes or in armed conflict”. Whilst the definition of armed conflict is clearly established under international law,⁹¹ what constitutes “hostile purposes” is not. The Review Conferences have also tended to merge the scope of the Convention to relate to both biological agents and toxins, equipment and their means of delivery for “non-peaceful purposes”.⁹² Whether this is an extension of the scope of the treaty would require further research. This is particularly interesting given the indications that the obligation to prohibit extends to all criminal activities. Criminal activities do not necessarily have implications for international peace and security, but can, such as organised crime and terrorism. This area is worth exploring in further detail to understand the exact delineations of the different obligations and their relation to each other.

The acts prohibited in the opening sentence to Article I BWC are also connected with Article III BWC that prohibits the transfer, directly or indirectly, to any recipient whatsoever, or to assist, encourage, or induce any State, group of States or international organizations to manufacture or otherwise acquire any of the agents, toxins, weapons, equipment or means of delivery specified in Article I BWC.⁹³ As such, the Seventh and Eighth Review Conferences noted that national implementation measures to prevent “transporting or transferring... biological agents and toxins, equipment, or their means of delivery for non-peaceful purposes” alongside developing, producing, stockpiling, or otherwise acquiring or retaining and using as required under Article IV.⁹⁴

Conclusions

The Final Declarations of the Review Conferences of the BWC are examples of subsequent state practice and agreements that have developed the interpretation and understanding of the requirements contained in the Convention, including Article IV. They are therefore an important tool in interpretation of the obligations contained in the BWC.

The obligations contained in Article IV BWC are critical in the Convention structure to fulfilling the aims of the BWC. Through national implementation measures, States can achieve a great deal eliminating biological toxins, agents and weapons that have no prophylactic, protective or other peaceful purposes. Ensuring that effective necessary measures are in place also contributes to limiting the effect

of efforts to frustrate international efforts to strengthen the implementation of the Convention. It would therefore be timely to review the current structure in place in Sweden to consider whether the obligations under Article IV are implemented, particularly in light of the possibility under the Swedish constitutional framework.

States Parties to the BWC have considered a broad range of measures that are considered “necessary” to implement the obligations to prohibit and prevent further to Article IV BWC. A considerable emphasis has been placed on formal regulation through legislative, administrative, judicial, and penal measures, with particular emphasis on the use of penal legislation to implement the obligation to prohibit. It is acknowledged and understood in the Final Declarations that further measures are needed alongside formal regulation to fully implement the obligations under Article IV. Education and training, national reporting, codes of conduct, and self-regulation within research and relevant industries have also been highlighted alongside formal regulation. The mirroring of requirements between the BWC through subsequent agreements and practice and the treaty text of the CWC is noteworthy. States Parties have also clarified the interpretation of Article I BWC, which impacts then on what measures are necessary to implement Article IV BWC. Important in this is the extension of the obligations under Article I to the use. Transfer and transport have also been noted as being included within Article IV.

The Final Declarations also highlight areas where further understanding could be developed through research. For example, States Parties have indicated that measures should ensure against the use of biological and toxin weapons in terrorist and criminal activity.⁹⁵ The relationship between obligations relating to terrorist

activities, IHRL, IHL and domestic criminal law would be interesting to explore further. Understanding the jurisdictional limitations and possibilities in different measures under criminal, administrative and civil measures would also be interesting to investigate further. This is particularly in light of developments in international law that explore the responsibility of corporations under IHRL and international environment law, as well as discussions relating to the possibility of introducing corporate criminal responsibility for international crimes.

Understanding how the provisions of the BWC relates to the obligations under international law relevant to bio-security is also noteworthy. The concept of “bio-security” encompasses the aims of the BWC, but is broader also including bio-terrorism, bio-diversity and obligations of States to prevent the spread of diseases in their territory and beyond their borders under IHRL. This is also in light of the scope of the BWC covering weapons, equipment or means of delivery designed to use such agents or toxins for “hostile purposes”, as well as situations of armed conflict under Article I BWC and the obligations under Article III of States Parties not to directly or indirectly transfer to “any recipient whatsoever”. Further understanding of the obligations of the BWC might also be aided by reference to other treaties and norms prohibiting weapons of mass destruction, such as the CWC and treaties relating to nuclear weapons. A better understanding of the legal relationship between these instruments is becoming more and more relevant in light of technological and scientific advances, such as in relation to toxins,⁹⁶ as well as in relation to the convergence of biology and chemistry. Such understanding would be a further compliment to other efforts to address activities that undermine the aims of the BWC. ■

Endnotes

- 1 Convention on the prohibition of the development, production and stockpiling of bacteriological (biological) and toxin weapons and on their destruction 1972, UNTS Vol. 1015 p. 163 (BWC), ratified by Sweden in SÖ 1976:18, 5 February 1976.
- 2 BWC Article IV. As set out below, “use” is not listed in the treaty text of Article I, but has been added to the interpretation of Article I through subsequent practice and agreement of the State Parties and thus must also be covered by “necessary measures” under Article IV. “Transfer” and “transport” has also been added in to the listed actions in Article IV. See further Preparatory Committee for the Ninth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, Additional understandings and agreements reached by previous Review Conferences relating to each article of the Convention: Background information document submitted by the Implementation Support Unit, UN Doc. BWC/CONF/IX/PC/5, 10 January 2022 (BWC/CONF/IX/PC/5), 2022, para. 9-11, referencing, VIII.I.3, VII.I.3, VI.I.3, and IV.I.3 and Dominika Švarc, ‘Biological Weapons and Warfare’ in Anne Peters and Rüdiger Wolfrum (eds.), *Max Planck Encyclopedia of Public International Law* (online edition), Oxford University Press, November 2006, last updated August 2015, para. 12.
- 3 BWC Article I. The BWC has almost universal membership with 185 State Parties and four Signatory States at the time of writing. See further William H. Boothby, *Weapons and the Law of Armed Conflict* (Oxford University Press, 2016), 125-128 and William H. Boothby, *The Law of Targeting* (Oxford University Press, 2012), 267-268.
- 4 See further W. Seth Carus, ‘A Short History of Biological Warfare: From Pre-History to the 21st Century’, Center for the Study of Weapons of Mass Destruction, Occasional Paper No. 12, August 2017, 27-44; Friedrich Frischknecht, ‘The history of biological warfare’, EMBO Reports, Issue 4 No. 1, June 2003, 47-52, <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1326439/>>. See also Milton Leitenberg, ‘Biological Weapons in the Twentieth Century: A Review and Analysis’, *Critical Reviews in Microbiology*, Volume 27, No. 4, 2001, 267-320; and Glenn Cross, ‘Long Ignored: The Use of Chemical and Biological Weapons Against Insurgents’, *War on the Rocks*, 15 August 2017, <<https://warontherocks.com/2017/08/long-ignored-the-use-of-chemical-and-biological-weapons-against-insurgents/>>. All internet links contained in this memo were last accessed 6 December 2023.
- 5 Efforts were made to agree a new protocol additional to the BWC which included a verification process, but ultimately failed in July 2001. See further Stuart Casey-Maslen, *Arms Control and Disarmament Law* (Oxford University Press, 2021), 55-58 and John R. Walker, ‘Reflections on the 2001 BWC Protocol and the verification challenge’, *The Nonproliferation Review*, Vol. 27, No. 4-6, 507-515. See also Jonathan Tucker, ‘The Fifth Review Conference of the Biological and Toxin Weapons Convention’, NTI Report, 31 January 2002, <<https://www.nti.org/analysis/articles/biological-and-toxin-weapons-bwc/>>, and David P. Fidler, ‘Outcome of the 6th Review Conference of the Biological Weapons Convention, November-December 2006’, *ASIL Insight* 2007, Vol. 11 No. 3, 23 February 2007.
- 6 Under BWC Article XII, a conference of the State parties shall be held at least five year after the entry into force of the Convention to review the operation of the Convention, “with a view to assuring that the purposes of the preamble and the provisions of the Convention, including the provisions concerning negotiations on chemical weapons, are being realised.” In practice, State parties have agreed by consensus to hold a review conference every five years after the last.
- 7 Among others, the Russia Federation withdrew from the Eastern European Group and established a new regional group consisting of only the Russian Federation. See Ninth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, ‘Final Document of the Ninth Review Conference’, UN Doc. BWC/CONF/IX/9, 21 December 2022, para. 26. See further Susanne Börjegen et al, ‘Årsredovisning CBRN 2022 avseende Nedrustning och icke-spridning’, FOI-R--5482—SE, July 2023, 10-12.
- 8 Ninth Review Conference Final Documental 2022, para. 42. Such actions have spurred action on an international level by other State Parties to reinforce the Convention, including the US being reportedly being more open to discussing a verification process for the first time in since the failed efforts in July 2001. See further Mar Hidalgo, ‘The Ninth Review of the Convention for the prohibition of Biological and Toxin Weapons (BWC): the ball keeps rolling’, Instituto Español de Estudios Estratégicos, 12/2023, 15 February 2023; Una Jakob, ‘The 9th Review Conference of the Biological Weapons Convention’, PRIF Blog, 7 February 2023, <<https://blog.prif.org/2023/02/07/the-9th-review-conference-of-the-biological-weapons-convention/>>; and Vivienne Zhang, Manon Blancafort and Sarah Erikson, ‘What’s Next? The Ninth Biological Weapons Review Conference and Beyond’, UNIDIR Commentary, 13 March 2023, <<https://unidir.org/whats-next-the-ninth-biological-weapons-review-conference-and-beyond/>>.
- 9 See Casey-Maslen, *Arms Control and Disarmament Law*, 2021; Tucker ‘The Fifth Review Conference of the Biological and Toxin Weapons Convention’, 2002 and Fidler, ‘Outcome of the 6th Review Conference of the Biological Weapons Convention, November-December 2006’, 2007.
- 10 Vienna Convention on the Law of Treaties 1969 (VCLT), UNTS Vol. 1155 p. 331, ratified by Sweden in SÖ 1975:1, in force from 27 January 1980.
- 11 VCLT Article 31(1).
- 12 VCLT Article 31(2).
- 13 There are numerous UN instruments relevant to these various fields, some of which include international legal obligations, but not all.
- 14 See further International Law Commission, Draft Articles on Responsibility of States for Internationally Wrongful Acts, November 2001, Supplement No. 10 (A/56/10), chp.IV.E.1, Article 1.
- 15 This distinction between penal legislation as a measure to prohibit and further regulation so as to prevent is also consistent with UN Security Council Resolution 1540 (2004), UN Doc. S/RES/1540 (2004), 28 April 2004 (S/RES/1540 (2004)), paras. 2 and 3. See further on State reporting below.

- 16 These requirements are embedded in numerous international legal instruments, but notably in IHRL. See, for example, International Covenant on Civil and Political Rights 1966 (ICCPR), UNTS Vol. 999 p. 171, ratified by Sweden on 6 December 1971 in SÖ 1971:42, Article 15 and European Convention on Human Rights, ETS No. 005, ratified by Sweden on 4 February 1952 in SÖ 1952:35, Article 7. See further Claus Krefß, 'Nulla poena nullum crimen sine lege', in Anne Peters and Rüdiger Wolfrum (eds.), *Max Planck Encyclopedia of Public International Law* (online edition), Oxford University Press, November 2006, last updated February 2010.
- 17 BWC preamble para. 1.
- 18 BWC/CONF.IX/PC/5, 2022, para. 34, referencing VIII.IV.11, VII.IV.11, VI.IV.11.i. See also para. 33, referencing IV.IV.1.
- 19 This interpretation is in line with BWC Articles V and VI. See also Articles X, XI and XII.
- 20 Jurisdiction broadly describes the authority of the State to make, apply and enforce its rules over areas and individuals. See further Bernard H. Oxman, 'Jurisdiction of States', in Anne Peters and Rüdiger Wolfrum (eds.), *Max Planck Encyclopedia of Public International Law* (online edition), Oxford University Press, November 2006, last updated November 2007.
- 21 Permanent Court of International Justice, *S.S. 'Lotus' (France v. Turkey)*, Judgment, Judgment No. 9, PCIJ Series A No 10, 7 September 1927 (Lotus Case), p. 19-20. For example, a State may not adjudicate or carry out enforcement proceedings over acts performed by another State in its sovereign capacity. See further Samantha Besson, 'Sovereignty' in Anne Peters and Rüdiger Wolfrum (eds.), *Max Planck Encyclopedia of Public International Law* (online edition), Oxford University Press, November 2006, last updated April 2011 and Oxman, 'Jurisdiction of States', 2007.
- 22 See, for example, European Court of Human Rights (ECtHR), *Ukraine and the Netherlands v. Russia*, Applications nos. 8019/16, 43800/14 and 28525/20, Decision on Admissibility, 30 November 2022, paras. 503-507 and 547-573; Human Rights Committee, General Comment No. 36, 'Article 6: Right to Life', UN Doc. CCPR/C/GC/36, 3 September 2019 (HRC, General Comment No. 36, 2019), para. 63; and International Court of Justice (ICJ), *Application of the International Convention on the Elimination of all Forms of Racial Discrimination (Georgia v. Russian Federation)*, Provisional Measures, Order of 15 October 2008, ICJ Reports 2008, p. 353, para. 109; ICJ, *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion of 9 July 2004, ICJ Reports 2004, p. 136, para. 113.
- 23 Note further the norm under VCLT Article 31(3)(c) that any relevant rules of international law applicable in the relations between the parties should also be taken into account.
- 24 See further Kristoffer Burck, Sannimari Veini and Barry de Vries, 'The Legal Effect of the BWC Review Conferences', CWBNet Working Paper No. 2, November 2022 (Burck, Veini and de Vries, 'The Legal Effect of the BWC Review Conferences', CWBNet 2022), 2.
- 25 Oliver Dörr, 'Article 31', in Oliver Dörr and Kristen Schmalenback (eds.), *Vienna Convention on the Law of Treaties: A Commentary* (2nd ed., Springer, 2018) (Dörr, 'Article 31', 2018) , 594.
- 26 BWC Article XII.
- 27 International Law Commission, Draft conclusions on subsequent agreements and subsequent practice in relation to the interpretation of treaties, with commentaries, 2018, Supplement No. 10 (A/73/10), ch.IV.E.2 (ILC Draft Conclusions on subsequent agreements and subsequent practice 2018), Draft conclusion 11 – commentary paras. 2-4. See further Burck, Veini and de Vries, 'The Legal Effect of the BWC Review Conferences', CWBNet 2022, 3-8.
- 28 These were the Fifth Review Conference, in which efforts to adopt a Protocol which included a verification process to the BWC failed, and the Ninth Review Conference. See further Jonathan Tucker, 'The Fifth Review Conference of the Biological and Toxin Weapons Convention', NTI Report, 31 January 2002, and BWC/CONF.IX/9 2022.
- 29 ILC Draft Conclusions on subsequent agreements and subsequent practice 2018, Conclusion 11(3); Dörr, 'Article 31', 2018, 594.
- 30 Burck, Veini and de Vries, 'The Legal Effect of the BWC Review Conferences', CWBNet 2022, 8.
- 31 ILC Draft Conclusions on subsequent agreements and subsequent practice 2018, Draft conclusion 11 – commentary, para. 11.
- 32 Draft Conclusions on Subsequent Practice, Conclusion 11(2). See also Dörr in Oliver Dörr and Kristen Schmalenback (eds.), *Vienna Convention on the Law of Treaties A Commentary* (2nd ed., Springer Berlin Heidelberg: 2018), 595-596.
- 33 BWC/CONF.IX/PC/5, 2022, para. 1
- 34 See Matthias Herdegen, 'Interpretation in International Law', November 2020, in Anne Peters and Rüdiger Wolfrum, (eds.), *Max Planck Encyclopedia of Public International Law* (online edition), Oxford University Press, November 2006, last updated November 2020, para. 18.
- 35 The First, Second, Third and Fourth Review Conference noted the provisions of Article IV and called upon "all States Parties which have not yet taken any necessary measures in accordance with their constitutional processes to do so *immediately*." (emphasis added). BWC/CONF.IX/PC/5, 2022, para. 36, referencing IV.IV.2, III.IV.2, II.IV.2, I.IV.1.
- 36 BWC/CONF.IX/PC/5, 2022, para. 36, referencing IV.IV.3-4, III.IV.3, and II.IV.4.
- 37 BWC/CONF.IX/PC/5, 2022, para. 37, referencing VIII.IV.11.a, VII.IV.11.a, and VI.IV.11.i.
- 38 ICCPR Article 15; ECHR Article 7.
- 39 BWC/CONF.IX/PC/5, 2022, para. 40, referencing IV.IV.3, III.IV.3, and II.IV.4.
- 40 BWC/CONF.IX/PC/5, 2022, para. 41, referencing VIII.IV.11.c, VII.IV.11.c, and VI.IV.11.
- 41 BWC/CONF.IX/PC/5, 2022, para. 38-39, referencing IV.IV.2, III.IV.2, VIII.IV.11.b, VII.IV.11.b, and VI.IV.11.ii.

- 42 BWC/CONF.IX/PC/5, 2022, para. 38-39, referencing IV.IV.2, III.IV.2, VIII.IV.11.b, VII.IV.11.b, and VI.IV.11.ii. This is also reflective of the requirements under CWC Article VII(1)(c) of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction 1993 (CWC), UNTS Vol. 1975 p. 3, in force ratified by Sweden SÖ 1993:28 and in force from 29 April 1997 (CWC). CWC Article VII(1)(c) requires State parties to extend penal legislation to any activity prohibited to a State Party to the CWC undertaken anywhere by natural persons, possessing its nationality, in conformity with international law.
- 43 Note that this is different from international crimes. All States can extend their jurisdiction over international crimes, regardless of where the crime took place, who the perpetrator was or who the victim/s were. See further Anne Lagerwall and Marie-Laurence Hébert-Dolbec, 'Universal jurisdiction', in Anne Peters and Rüdiger Wolfrum, (eds.), *Max Planck Encyclopedia of Public International Law* (online edition), Oxford University Press, November 2006, last updated July 2022.
- 44 Lotus Case, p. 19-20.
- 45 Lag (1998:408) om förbud mot köp av sexuella tjänster, SFS 1998:408.
- 46 With the noted exception of crimes with universal jurisdiction.
- 47 Note there is a difference here with the provisions of the CWC. CWC Article VII(1)(c) requires that State Parties prohibit "natural and legal persons anywhere on its territory or in any other place under its jurisdiction as recognized by international law from undertaking any activity prohibited to a State Party under this Convention, including enacting penal legislation with respect to such activity" (emphasis added). State Parties are also obliged to extend penal legislation specifically to "natural persons, possessing its nationality" undertaking prohibited acts under the Convention that take place anywhere by natural persons.
- 48 See, for example, Mark Pieth and Radha Ivory, *Corporate Criminal Liability: Emergence, Convergence and Risk* (Springer Link, 2015) and Linklaters, 'Global Guide: Corporate Criminal Liability', webpage, <<https://www.linklaters.com/en/insights/publications/corporate-criminal-liability-guide/global-guide-corporate-criminal-liability>>.
- 49 See further Matthias Hedvall, 'Corporate Liability in Sweden', Global Compliance News: A Baker McKenzie Blog, <<https://www.globalcompliancenews.com/white-collar-crime/corporate-liability-in-sweden/>> and Per Hedvall, 'The Swedish Report on Prosecuting Corporations for Violations of International Criminal Law', 2018, International Law Association of Penal Law, <https://www.penal.org/sites/default/files/SWEDEN_Report.pdf>.
- 50 BWC/CONF.IX/PC/5, 2022, para. 49, referencing VIII.IV.13.f, VII.IV.13.f, and VI.IV.13.
- 51 BWC/CONF.IX/PC/5, 2022, para. 13, referencing III.I.5.
- 52 See further International Health Regulations 2005, UNTS Vol. 2509 p. 79, implemented in Sweden through Lag (2006:1570); International Covenant on Economic, Social and Cultural Rights 1966, UNTS Vol. 993 p. 3, ratified by Sweden by SÖ 1971:41 and in force from 3 January 1976, Article 12(2)(c); ICCPR Article 6; and HRC, General Comment No. 36, 2019, para. 26. See further Regulation (EU) 2022/2371 of the European Parliament and of the Council of 23 November 2022 on serious cross-border threats to health and repealing Decision No 1082/2013/EU, OJ L 314, 6.12.2022, p. 26–63.
- 53 BWC/CONF.IX/PC/5, 2022, para. 41, referencing VIII.IV.13.a, and VII.IV.13.a.
- 54 BWC/CONF.IX/PC/5, 2022, para. 43, referencing VIII.IV.13.e, and VII.IV.13.e.
- 55 BWC/CONF.IX/PC/5, 2022, para. 48, referencing VI.IV.15.
- 56 BWC/CONF.IX/PC/5, 2022, para. 17, referencing IV.I.8, and III.I.7.
- 57 BWC/CONF.IX/PC/5, 2022, para. 42, referencing VIII.IV.13.c, and VII.IV.13.c.
- 58 BWC/CONF.IX/PC/5, 2022, para. 44, referencing VI.IV.14, IV.IV.3, III.IV.3, and II.IV.4. See further Protocol for the prohibition of the use in war of asphyxiating, poisonous or other gases, and of bacteriological methods of warfare 1925, LNTS Vol. 94 p. 65.
- 59 BWC/CONF.IX/PC/5, 2022, para. 45, referencing VIII.IV.13.d, VII.IV.13.d, and VI.IV.14.
- 60 See Jean-Marie Henckaerts and Louise Doswald-Beck (eds.), *Customary International Humanitarian Law* (online edition) (Cambridge University Press, 2005), Volume I: Rules (ICRC *Customary International Humanitarian Law Study*), Rule 142: Instruction in International Humanitarian Law within Armed Forces, and 143: Dissemination of International Humanitarian Law among the Civilian Population.
- 61 BWC/CONF.IX/PC/5, 2022, para. 47, referencing VI.IV.15.
- 62 This again raises interesting questions regarding the relationship between the obligations under BWC and obligations under IHRL and State obligations to investigate potential violations of human rights.
- 63 BWC/CONF.IX/PC/5, 2022, para. 35, referencing VIII.IV.15, VII.IV.15, and VI.IV.18.
- 64 See further United Nations Office of Disarmament Affairs: National Implementation of the Biological Weapons Convention', webpage, <<https://disarmament.unoda.org/biological-weapons/national-implementation>>.
- 65 Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, 'Meeting of Experts on Strengthening National Implementation, BWC/MSP/2019/MX.3/INF.2, 5 August 2019, para. 4. See further para. 5 and Annex 1.
- 66 BWC/MSP/2019/MX.3/INF.2, 2019, para. 4.
- 67 BWC/CONF.IX/PC/5, 2022, para. 51, referencing VIII.IV.12, VII.IV.12, and VI.IV.12. See further I.IV.2, IV.IV.5, III.IV.4, II.IV.3, I.IV.2, and IV.IV.5, III.IV.4.

- 68 See further CWC Article VII(6) and (7).
- 69 BWC/CONF.IX/PC/5, 2022, para. 52, referencing VIII.IV.17, VII.IV.17, and VI.IV.17.
- 70 S/RES/1540 (2004), para. 4. See further United Nations, '1540 Committee: Security Council Committee established pursuant to resolution 1540 (2004)', webpage, <<https://www.un.org/en/sc/1540/>>.
- 71 See further UN Security Council Resolution 1977 (2011), UN Doc. S/RES/1977 (2011), 20 April 2011, paras. 6-8; UN Security Council Resolution 2325 (2016), UN Doc. S/RES/2325 (2016), 15 December 2016, paras. 3-5; and UN Security Council Resolution 2663 (2022), UN Doc. S/RES/2663 (2022), 30 November 2022, paras. 6 and 7.
- 72 BWC/CONF.IX/PC/5, 2022, para. 53, referencing IV.IV.6. See further III.IV.VI, which names the Mendoza Declaration between Brazil, Argentina and Chile in 1991, as one such regional measure. See also ASEAN Member States' Perspective on International Cooperation and Assistance Under the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction (BWC), BWC/WG.2/WP.1, 19 July 2023 and Support of the European Union and its Member States to Strengthening Biosafety and Biosecurity Globally, BWC/CONF.IX/WP.38, 29 November 2022.
- 73 BWC/CONF.IX/PC/5, 2022, para. 54, referencing VI.IV.16.
- 74 BWC/CONF.IX/PC/5, 2022, para. 55, referencing VIII.IV.14, and VII.IV.14.
- 75 CWC Article VII(1), (2) and (3).
- 76 All are available on the Organisation for the Prohibition of Chemical Weapons' website: <<https://www.opcw.org/chemical-weapons-convention/annexes/annex-chemicals/annex-chemicals>>.
- 77 BWC/CONF.IX/PC/5, 2022, para. 7, referencing II.I.5.
- 78 BWC/CONF.IX/PC/5, 2022, para. 6, referencing IV.I.2, and III.I.2.
- 79 BWC/CONF.IX/PC/5, 2022, para. 7, referencing IV.I.5, III.I.3, and II.I.5.
- 80 BWC/CONF.IX/PC/5, 2022, para. 15, referencing IV.I.6, III.I.3, and II.I.4.
- 81 BWC/CONF.IX/PC/5, 2022, para. 15, referencing IV.I.6, III.I.3, and II.I.4.
- 82 BWC/CONF.IX/PC/5, 2022, para. 12, referencing VIII.I.4, VII.I.4, VI.I.4, IV.I.7, and III.I.4.
- 83 See, for example, Durward Johnson and James Kraska, 'Some Synthetic Biology May Not Be Covered by the Biological Weapons Convention', Lawfare Blog, 14 May 2020, <<https://www.lawfare-media.org/article/some-synthetic-biology-may-not-be-covered-biological-weapons-convention>>.
- 84 BWC Article I(a).
- 85 BWC/CONF.IX/PC/5, 2022, para. 7, referencing II.I.5.
- 86 BWC/CONF.IX/PC/5, 2022, para. 8, referencing VIII.I.1, VII.I.1, and VI.I.1.
- 87 BWC/CONF.IX/PC/5, 2022, para. 14, referencing II.I.2.
- 88 BWC/CONF.IX/PC/5, 2022, para. 16, referencing VIII.I.2, VII.I.2, VI.I.2.
- 89 See further ICRC *Customary International Humanitarian Law Study*, Rule 73: Biological Weapons. See further Rule 71: Weapons That Are by Nature Indiscriminate and Rule 70: Weapons of a Nature to Cause Superfluous Injury or Unnecessary Suffering.
- 90 See BWC/CONF.IX/PC/5, 2022, para. 9-11, referencing, VIII.I.3, VII.I.3, VI.I.3, and IV.I.3.
- 91 Geneva Conventions of 1949, Common Articles 2 and 3. See further Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts 1977, UNTS Vol. 1125 p. 3, Article 1 and Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of Non-International Armed Conflicts, UNTS Vol. 1125 p. 609, Article 1.
- 92 BWC/CONF.IX/PC/5, 2022, para. 33, referencing VIII.IV.13.g, VII.IV.13.g.
- 93 See further BWC Article X.
- 94 BWC/CONF.IX/PC/5, 2022, para. 33, referencing VIII.IV.13.g, VII.IV.13.g.
- 95 BWC/CONF.IX/PC/5, 2022, para. 33, referencing IV.IV.1.
- 96 See further Organisation for the Prohibition of Chemical Weapons, 'Analysis of Biotoxins Report of the Scientific Advisory Board's Temporary Working Group', SAB/REP/1/23, 20 April 2023.

