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## THE INTERNATIONAL LEGAL REGIME AFFECTING BIOTERRORISM PREVENTION

**Eric Merriam\***

*For decades the international legal regime governing biological weapons has focused on limiting states' development, possession, and use of biological weapons. Though rogue states' interest in biological weapons remains a concern, a newer and perhaps more significant issue is the ability of non-state actors to develop and use bioweapons, with or without state assistance. This Article provides a description and assessment of the existing international legal infrastructure regarding the prevention of bioterrorism, focusing on non-proliferation. Though primarily focused on the modern era's two major international legal mechanisms affecting bioterrorism, the Biological Weapons Convention and United Nations Security Council Resolution 1540, other agreements are noted for completeness.*

*The Article discusses the advantages and problems of each instrument, addressing the "net effect" of the cumulative legal mechanisms, which lack crucial elements, including a clear definition of what constitutes bioweapons and banned agents, an adequate verification and inspection regime, significant enforcement mechanisms, and safety nets for developing states. These elements must be addressed, but even once these issues are rectified, the legal structure affecting biological weapons necessarily remains only one part of the global response to bioterrorism.*

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*“The destructive power of [biological] weapons is no less than that of nuclear weapons.”<sup>1</sup>*

– Ayman al-Zawahiri, Commander, Al Qaeda

*“Biological weapons are considered the least complicated and the easiest to manufacture [of] all weapons of mass destruction.”<sup>2</sup>*

– Attributed to al Tawhid wal Jihad, a predecessor to the Islamic State of Iraq and the Levant (ISIL)

INTRODUCTION

For decades the international legal regime governing biological weapons, including the 1925 Geneva Protocol to the

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<sup>1</sup> Alan Cullison & Andrew Higgins, *Computer in Kabul Holds Chilling Memos*, WALL ST. J., Dec. 31, 2001, at A1.

<sup>2</sup> Sammy Salama & Lydia Hansell, *Does Intent Equal Culpability?: Al-Qaeda and Weapons of Mass Destruction*, 12 NONPROLIFERATION REV. 615, 631 (2005) (citing an article on biological weapons appearing on a website for al Tawhid al Jihad, a predecessor to Al Qaeda in Iraq and the Islamic State of Iraq and the Levant).

Hague Convention (“Geneva Protocol”)<sup>3</sup> and the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (“Biological Weapons Convention” or “BWC”)<sup>4</sup> was focused on limiting *states’* development, possession, and use of biological weapons. Though rogue states’ interest in biological weapons remains a concern, a newer and perhaps more significant issue is the ability of non-state actors—terrorists—to develop and use bioweapons, with or without state assistance.<sup>5</sup> This Article describes and assesses the adequacy of the existing international legal infrastructure regarding bioterrorism prevention, focusing on non-proliferation.<sup>6</sup> Though primarily focused on the modern era’s two major international legal mechanisms affecting bioterrorism—the Biological Weapons Convention and United Nations Security Council Resolution 1540—other agreements are noted for completeness.

Policy assessments of broader concepts of global governance of terrorism and bioterrorism, as well as discussion regarding the advent of non-legal bioterrorism deterrence methods over the last decade, including actual and proposed non-binding partnerships, are outside the scope of the Article. Rather, it focuses on existing, binding legal mechanisms that directly affect bioterrorism. Additionally, the Article is focused on bioterrorism *prevention*—

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<sup>3</sup> Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 26 U.S.T. 571 [hereinafter Geneva Protocol].

<sup>4</sup> Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, April 10, 1972, 26 U.S.T. 583 [hereinafter BWC].

<sup>5</sup> “[W]hile the United States remains concerned about state-sponsored biological warfare and proliferation, we are equally, if not *more* concerned, about an act of bioterrorism, due to the increased access to advances in the life sciences.” Ellen Tauser, Under Sec’y for Arms Control & Int’l Sec., U.S. Dep’t of State, Preventing Biological Weapons Proliferation and Bioterrorism, Address to the Annual Meeting of the States Parties to the Biological Weapons Convention (Dec. 9, 2009), *available at* <http://www.state.gov/t/us/133335.htm>.

<sup>6</sup> “Bioterrorism” is the focus of this article, rather than the broader term “bioviolence,” which is understood to be conducted by entities—particularly, states—for purposes that may include terrorism, but also may include non-terror activities.

especially in the form of non-proliferation efforts—and does not address another important aspect of bioterrorism: *response*.<sup>7</sup> The Article discusses the advantages and problems of each instrument as it is addressed, before concluding with comments regarding the current “net effect” of the cumulative legal mechanisms and offering brief recommendations for improvement.

## I. CHRONOLOGICAL ASSESSMENT OF EXISTING INTERNATIONAL LEGAL INFRASTRUCTURE

The existing international regime affecting the prevention of bioterrorism derives from a collection of international agreements rather than one bioterrorism-specific document. This web of mechanisms has developed over many years in a variety of contexts and for a variety of purposes. The Hague Conventions and ensuing Geneva Protocol iterated the first legal restrictions applicable to bioterrorism, while the Biological Weapons Treaty of 1972 remains the most significant, most recent, addition to the present international regime.

### A. *The Hague Conventions and 1925 Geneva Protocol to the Hague Convention*

The 1899 and 1907 conferences at The Hague produced two primary documents, now known as the Hague Conventions.<sup>8</sup> Both documents included principles governing aspects of the conduct of warfare.<sup>9</sup> In a declaration constituting part of the 1899 Hague Convention, signatory parties specifically agreed that “[t]he Contracting Powers agree to abstain from the use of projectiles the object of which is the diffusion of asphyxiating or deleterious gases.”<sup>10</sup> This ban on the use of *chemical* weapons is as close as the

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<sup>7</sup> Admittedly, a robust public health response to bioterrorism could be considered a form of prevention if those response capabilities are known and serve to deter terrorists or others from taking action.

<sup>8</sup> Convention Respecting the Laws and Customs of War on Land, Oct. 18, 1907, 36 Stat. 2277, 205 Consol. T.S. 277 [hereinafter 1907 Hague]; Declaration on the Use of Projectiles the Object of Which is the Diffusion of Asphyxiating or Deleterious Gases, July 29, 1899, 32 Stat. 1803, 187 Consol. T.S. 453 [hereinafter 1899 Hague].

<sup>9</sup> *Id.*

<sup>10</sup> 1899 Hague, *supra* note 8.

1899 Hague Convention came to barring *biological* weapons. Notably, the declaration is “only binding on the Contracting Powers in the case of a war between two or more of them” and ceases “from the time when, in a war between the Contracting Powers, one of the belligerents shall be joined by a non-Contracting Power.”<sup>11</sup>

The 1907 Hague Convention contained a possible reference to biological or similar weapons, stating only that “[i]n addition to the prohibitions provided by special Conventions, it is especially forbidden . . . [t]o employ poison or poisoned weapons . . . .”<sup>12</sup> This vague reference to poison likely reveals the reality that development of modern biological weapons was nascent, with the capability to isolate, identify, and culture microorganisms having only recently appeared. Even into the 1920s, bioweapons were not viewed as militarily credible, though French and German researchers were actively pursuing bioweapons production.<sup>13</sup>

The 1925 Geneva Protocol to the Hague Convention (“Geneva Protocol”)<sup>14</sup> was the first agreement of the modern era to address biological weapons explicitly and significantly. Following the gruesome attrition-focused trench warfare of the First World War, many nations thought it important to limit further the manner in which future wars would be fought.<sup>15</sup> The Geneva Protocol provided greater specificity than the Hague Conventions regarding prohibited methods of warfare. Specifically, the parties to the Geneva Protocol “agree to extend [the prohibition on the use of chemical weapons] to the use of *bacteriological* methods of warfare

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<sup>11</sup> *Id.*

<sup>12</sup> 1907 Hague, *supra* note 8, Annex art. 23. Though it is not entirely clear what constituted “poison or poisoned weapons” at the time, the International Court of Justice has opined that the term applied to “weapons whose prime, or even exclusive, effect is to poison or asphyxiate.” *Legality of the Threat or Use of Nuclear Weapons*, 1996 I.C.J. 226, ¶ 55 (Jul 8).

<sup>13</sup> BARRY KELLMAN, *BIOVIOLENCE: PREVENTING BIOLOGICAL TERROR AND CRIME* 56 (2007).

<sup>14</sup> Geneva Protocol, *supra* note 3.

<sup>15</sup> See *id.*

and agree to be bound as between themselves according to the terms of this declaration.”<sup>16</sup>

Three important factors severely limit the utility of the Geneva Protocol in controlling modern international bioterrorism. First, like the Hague Conventions before it, the Geneva Protocol applied only to *use* and not to production, development, or acquisition.<sup>17</sup> Second, it applied only to states’ use in warfare, not to non-state actors or use in situations other than “warfare,” such as during peacetime or internal conflicts.<sup>18</sup> Along with this point, many nations have reserved the right to use biological weapons against non-parties to the convention and to respond in kind to biological weapons attacks.<sup>19</sup> Third, the Geneva Protocol applies only to “bacteriological methods,” which on its face excludes non-bacteriological biological microorganisms such as viruses.<sup>20</sup>

## B. *The Biological Weapons Convention (“BWC”) of 1972*

### 1. Background

#### a. *Historical Biological Weapon Development and Use Between the Geneva Protocol and BWC*

For nearly 50 years following the signing of the Geneva Protocol, no additional international agreements were reached addressing biological weapons.<sup>21</sup> During this period several major

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<sup>16</sup> *Id.* (emphasis added).

<sup>17</sup> Compare *id.* (“Whereas the *use* in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices, has been justly condemned by the general opinion of the civilized world . . .”) and 1899 Hague, *supra* note 8 (“The Contracting Powers agree to abstain from the *use* of projectiles the sole purpose of which is the diffusion of asphyxiating or deleterious gases.”) (emphasis added).

<sup>18</sup> BAREND TER HAAR, *THE FUTURE OF BIOLOGICAL WEAPONS* 2-3 (1991).

<sup>19</sup> Michael P. Scharf, *Clear and Present Danger: Enforcing the International Ban on Biological and Chemical Weapons Through Sanctions, Use of Force, and Criminalization*, 20 MICH. J. INT’L L. 477, 481 (1999).

<sup>20</sup> TER HAAR, *supra* note 18, at 3 (noting that in 1925, microorganisms such as viruses and rickettsia were not known, but it is understood that the scope encompasses all types of microorganisms).

<sup>21</sup> In 1969, however, the U.N. General Assembly reinforced the Geneva Protocol and provided an additional definition by declaring:

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conflicts were fought, including WWII, and a number of nations developed—and several used—biological weapons.<sup>22</sup>

Because the Geneva Protocol prohibited only *use*, countries continued to develop and produce biological weapons.<sup>23</sup> Many of the WWII belligerents, including Japan, Germany, France, Italy, Canada, the United Kingdom, the United States, and Russia, developed bioweapons programs either in the interwar period or, in the case of the United States, during WWII itself.<sup>24</sup> Indeed, the limited proscription of the Geneva Protocol permitted a veritable biological arms race.

In 1956, the United States adopted a policy to be “prepared to use chemical and bacteriological weapons in general war” and embarked on extensive programs to test the lethality, survivability,

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...as contrary to the generally recognized rules of international law, as embodied in the [Geneva Protocol],...the use in international armed conflicts of... (b) Any biological agents of warfare—living organisms, whatever their nature, or infective material derived from them—which are intended to cause disease or death in man, animals or plants, and which depend for their effects on the ability to multiply in the person, animal or plant attacked.

Questions of Chemical and Bacteriological (Biological) Weapons, G.A. Res. 2603(XXIV)A, U.N. Doc. A/RES/2603(XXIV)A (Dec. 16, 1969).

<sup>22</sup> For example, the Japanese Army notoriously used bubonic plague in ceramic bomblets against Chinese targets during World War II. DANIEL BARENBLATT, *A PLAGUE UPON HUMANITY: THE SECRET GENOCIDE OF AXIS JAPAN'S GERM WARFARE OPERATION 220-21* (2004). In 1948, Egypt allegedly caught Israeli soldiers poisoning an Egyptian well using typhoid and dysentery. Several Egyptian villages experienced disease outbreaks during this time. W. Seth Carus, *Bioterrorism and Biocrimes: The Illicit Use of Biological Agents Since 1900* 87-88 (Ctr. for Counterproliferation Research, Working Paper 2001), available at <http://www.dtic.mil/dtic/tr/fulltext/u2/a402108.pdf>. A variety of nations are alleged to have used biological weapons in assassination plots. *Id.* at 82-84. Brazil used smallpox, influenza, tuberculosis, and measles against its own aboriginal population in the 1950s and 1960s. CATHERINE CAUFIELD, *IN THE RAINFOREST* 12 (1984).

<sup>23</sup> TER HAAR, *supra* note 18, at 3 (“both parties and nonparties to the [Geneva Protocol (including the United Kingdom, Japan, and the United States)] believed they should acquire a stockpile of chemical [and biological] weapons to deter other countries from using them”).

<sup>24</sup> Milton Leitenberg, *Biological Weapons: Where have we come from over the past 100 years*, 64 PUB. INTEREST REP, no. 3, Fall 2011, at 21-22 (2011).



and dispersal characteristics of biological agents.<sup>25</sup> Then, at the height of the Cold War biological arms race, President Richard M. Nixon took the dramatic and unexpected step on November 25, 1969, of unilaterally renouncing the possession and use by the United States of “lethal biological agents and weapons, and all other methods of biological warfare,” and declaring that all biological research in the future would be confined to “defensive measures such as immunization and safety measures.”<sup>26</sup> Although President Nixon’s stated goal of renouncing bioweapons was to advance world peace, the lack of military utility of biological weapons led President Nixon and U.S. military leaders to have serious reservations about the effectiveness of biological weapons, believing instead that nuclear forces provided superior deterrence.<sup>27</sup> In fact, in an attitude exemplifying the total lack of concern for non-state actors using bioweapons prevalent at the time, President Nixon told his staff, “We’ll never use the damn germs, so what good is biological warfare as a deterrent? If somebody uses germs on us, we’ll nuke ’em.”<sup>28</sup>

*b. Immediate Context to BWC*

In 1969, Britain and the United States agreed on the final wording of a treaty banning biological weapons. Though the Soviet Union initially opposed the effort, even after Britain removed provisions requiring enforceable verification measures, in August 1970, the Soviet Union suddenly, and without explanation, dropped its objections.<sup>29</sup> The Biological Weapons Convention was opened for

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<sup>25</sup> ED REGIS, *THE BIOLOGY OF DOOM: THE HISTORY OF AMERICA’S SECRET GERM WARFARE PROJECT 177* (1999) (quoting Nat’l Sec. Council, Reg. NSC 5062/1 (Mar. 15, 1956)).

<sup>26</sup> President Richard M. Nixon, Statement on Chemical and Biological Defense Policies and Programs, 1969 PUB. PAPERS 461 (Nov. 25, 1969).

<sup>27</sup> Jack M. Beard, *The Shortcoming of Indeterminacy in Arms Control Regimes: The Case of the Biological Weapons Convention*, 101 AM. J. INT’L L. 271, 279 (2007).

<sup>28</sup> *Id.* at n.48. Clearly, a nuclear deterrent is irrelevant to terrorist groups with suicidal inclinations who intermingle with innocent civilians.

<sup>29</sup> *Id.* at 279. The reason for the Soviet Union’s compliance eventually became clear: a legally binding agreement gave the Soviets a deceptive legal cover for a massive offensive bioweapons program when an informal arrangement might not have falsely raised such expectations of their compliance. From the outset, Soviet acquiescence appears to have been a cynical maneuver that enabled the clandestine building of the largest bioweapons research and armament program in history. *Id.*

signature on April 10, 1972,<sup>30</sup> driven in large part by concerns, especially among western powers that were voluntarily disarming, about a continued biological weapons arms race—or worse, about lopsided bioweapons development by the Soviet Union, and bold public statements by some nations acknowledging the existence of bioweapons programs.<sup>31</sup>

## 2. BWC's Potential Applicability to Preventing Bioterrorism

As will be made clear below, the Biological Weapons Convention is not an anti-terrorism convention. Indeed, the participating states likely did not consider bioterrorism to be possible at the time the BWC was conceived.<sup>32</sup> Nevertheless, some key attributes and failures of the BWC affect the prevention of bioterrorism, and in some ways the history of the BWC has negatively impacted current and future ability to prevent bioterrorism. Crucial issues discussed here include the BWC's scope of prohibited weapons and activities, its application to non-state entities, required cooperation among states, and the nearly complete lack of verification and enforcement apparatus.

### a. *Scope of Prohibited Weapons and Activities*

The BWC's scope of prohibited activities raises several concerns. First, it is difficult to determine exactly what is prohibited, because developing, producing, stockpiling, or otherwise acquiring or retaining biological agents is prohibited only in quantities that have no justification for prophylactic, protective, or other peaceful

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<sup>30</sup> *Id.*; BWC, *supra* note 4. Following the Senate's advice and consent, President Gerald Ford ratified the treaty for the United States on January 22, 1975, and also finally ratified the Geneva Protocol, without reservations regarding the use of biological weapons. Beard, *supra* note 27, at n. 52.

<sup>31</sup> Initially a secret, in 1970, Egyptian President Anwar Sadat allegedly proclaimed, "Egypt has biological weapons stored in refrigerators and could use them against Israel's crowded population." *Biological Weapons Program – Egypt*, FED'N OF AM. SCIENTISTS, <http://www.fas.org/nuke/guide/egypt/bw/> (last updated Oct. 2, 1999).

<sup>32</sup> This is why this Article is titled "The International Legal Regime *Affecting* Bioterrorism Prevention," rather than "The International Legal Regime *For* Bioterrorism Prevention."

purposes.<sup>33</sup> Additionally, the definition of biological agents is broad and the treaty does not include a list of specifically prohibited agents or quantities.<sup>34</sup> Finally, the BWC does not proscribe *use* of biological weapons.<sup>35</sup>

*i. What is Prohibited? The Definition of Biological Weapons and Dual-Use Problems*

In Article I, States Parties to the BWC agreed “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.<sup>36</sup>

Two improvements over the Geneva Protocol are immediately apparent. First, the use of the phrase “never in any circumstances” eliminated one of the principal problems discussed above regarding the Geneva Protocol: that it did not prohibit use in peacetime or in internal conflict.<sup>37</sup> Second, the term “bacteriological” was replaced with the much broader phrase “biological agents, or toxins whatever their origin or method of production,” thus significantly broadening the definition of covered agents.<sup>38</sup>

However, the new definition poses serious problems. Many agents of concern to the international community, due to their potential use as weapons, also have peaceful purposes. This is typically referred to as a problem of “dual use.” That is, an agent can be weaponized or used peacefully and it is often impossible to

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<sup>33</sup> BWC, *supra* note 4, at art. I.

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

<sup>37</sup> Compare *id.* with TER HAAR, *supra* note 18.

<sup>38</sup> Compare BWC, *supra* note 4, with Geneva Protocol, *supra* note 3.

determine which use the possessor intends. Further, significant quantities of an agent are justifiable for peaceful purposes. For example, it is hard to say how much anthrax is needed when testing an anthrax vaccine.

An example of the dual use problem is clear in the situation involving Iran. In 2005, the U.S. State Department asserted:

According to open press reporting, Iran is expanding its biotechnology and biomedical industries by building large, state-of-the-art research and pharmaceutical production facilities. These industries could easily hide pilot to industrial-scale production capabilities for a potential [bioweapons] program, and could mask procurement of [bioweapons]-related process equipment.

...

The Iranian [bioweapons] program has been embedded within Iran's extensive biotechnology and pharmaceutical industries so as to obscure its activities. The Iranian military has used medical, education, and scientific research organizations for many aspects of [bioweapons]-related agent procurement, research, and development.<sup>39</sup>

This "dual use" issue manifests itself both in the BWC's attempt to define and prohibit weapons in a sufficiently vague and broad way to allow for peaceful production and possession, and in practical questions of verification and enforcement.

Because of the dual-use nature of so many biological agents, the BWC does not absolutely bar all biological weapons—it bars "types" and "quantities" of biological agents and toxins that have "no justification for prophylactic, protective, or other peaceful

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<sup>39</sup> U.S. DEP'T OF STATE, ADHERENCE TO AND COMPLIANCE WITH ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS 21 (2005), available at <http://www.state.gov/documents/organization/52113.pdf>. *But see* U.S. DEP'T OF STATE, ADHERENCE TO AND COMPLIANCE WITH ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS 8 (2011), available at <http://www.state.gov/documents/organization/170652.pdf> ("Available information indicated Iran continued during the reporting period to engage in activities with potential dual-use [bioweapons] applications. It remained unclear whether any of these activities were prohibited by the BWC.").

purposes.”<sup>40</sup> This approach attempts to address the issue of dual use by allowing for production and possession of agents that also have non-weapon purposes and is perhaps an attempt to “future-proof” the treaty in light of anticipated scientific developments. But the result is a legal regime with no specificity, one that permits production and possession of biological agents so long as there is also some justification for prophylactic, protective, or peaceful purpose. The United States and Britain, whose militaries were unwilling to accept any clarifying distinctions between “peaceful” and prohibited bioweapons activities, intentionally sought this arguably fatal ambiguity in defining what was prohibited.<sup>41</sup> Thus, the BWC does not include definitions or rules identifying or distinguish between types of biological agents that have no justification for prophylactic, protective or other peaceful purposes.<sup>42</sup> Moreover, the obligation imposed upon States Parties in Article II to destroy or convert to peaceful purposes all prohibited agents, toxins, weapons, or equipment in their possession, and Article III’s prohibition on States Parties transferring prohibited agents, toxins, weapons, or equipment, depend on what might be included within the undefined “peaceful purposes” found in Article I.<sup>43</sup>

Unlike the Chemical Weapons Convention (“CWC”),<sup>44</sup> its sister weapons of mass destruction (“WMD”) arms control agreement, the BWC has never been supplemented with a list of agent types or quantities that are prohibited, or even further clarification regarding what constitutes “prophylactic, protective, or peaceful purposes.”<sup>45</sup> Subsequent BWC Review Conferences have attempted, but been unable to agree on, an approved list of

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<sup>40</sup> BWC, *supra* note 4, at art. I.

<sup>41</sup> Beard, *supra* note 27, at 281.

<sup>42</sup> *Id.* (quoting BWC, *supra* note 4, at art. I)

<sup>43</sup> *Id.* at 281.

<sup>44</sup> Formally known as the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, Jan. 13, 1993, 1974 U.N.T.S. 45.

<sup>45</sup> See generally U.N. OFF. FOR DISARMAMENT AFF., ADDITIONAL AGREEMENTS REACHED BY PREVIOUS REVIEW CONFERENCES RELATING TO EACH ARTICLE OF THE CONVENTION (2012), available at [http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/B34D45AAB6755F27C1257D0100523C2D/\\$file/BWC%20&%20Additional%20Agreements%20Post%207RC.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/B34D45AAB6755F27C1257D0100523C2D/$file/BWC%20&%20Additional%20Agreements%20Post%207RC.pdf).

prohibited materials.<sup>46</sup> This lack of specificity leaves members of the international community to determine for themselves what types or quantities have no permitted purpose, thus leaving significant room for manipulation of the standards.

BWC Review Conferences have been somewhat successful in tackling the BWC's application to technological developments in the biological and toxin areas and in articulating guiding principles of the Convention's interpretation. The Fourth Review Conference in 1996 confirmed that the BWC covered developments in the fields of "microbiology, biotechnology, molecular biology, genetic engineering" and "any applications resulting from genome studies."<sup>47</sup>

#### *ii. Use Not Prohibited by BWC*

Largely because the widely accepted Geneva Protocol already banned use, and because the international community disagreed on exceptions to bans on use, the BWC does not prohibit *use* of biological weapons.<sup>48</sup> However, this is not as critical a hole in the dyke as it may appear. First, necessary antecedents to biological weapons use are prohibited (e.g., "use" of a weapon is difficult, if not impossible, if the user does not first "acquire" or "retain" it). Further, as applied to state actors, the problem posed by failure to prohibit use rarely has practical application because the vast majority of signatories to the BWC are also signatories to the Geneva Protocol, which is still in force and which *does* prohibit use of

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<sup>46</sup> DANIEL H. JOYNER, INTERNATIONAL LAW AND THE PROLIFERATION OF WEAPONS OF MASS DESTRUCTION 91-92 (2009).

<sup>47</sup> Fourth Review Conference of the States Parties to the Biological Weapons Convention, Geneva, Switz., Nov. 25 – Dec. 6, 1996, *Fourth Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction*, U.N. DOC. BWC/CONF.IV/9, Final Document, Final Declaration, Article I, para. 6 (1996) [hereinafter Fourth Review Conference].

<sup>48</sup> See generally Seventh Review Conference of the States Parties to the Biological Weapons Convention, Geneva, Switz., Dec. 5-22, 2011, *Seventh 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*, U.N. DOC. BWC/CONF.VII/7 (2011) [hereinafter Seventh Review Conference].

biological weapons.<sup>49</sup> Finally, use of biological weapons is so widely circumscribed in international law and practice that using them is arguably a violation of customary international law, whether or not a state is party to the Geneva Protocol or BWC.<sup>50</sup> Clearly, the resulting net impact of the various conventions is that use of biological weapons by state actors is prohibited. In fact, though not explicit in the text of the BWC, States Parties declared their understanding that the BWC effectively prohibits use at the BWC Fourth Review Conference in 1996:

The Conference reaffirms that the use by the States Parties, in any way and under any circumstances, of microbial or other biological agents or toxins, that is not consistent with prophylactic, protective or other peaceful purposes, is effectively a violation of Article I of the convention.<sup>51</sup>

*b. Application to Non-State Actors*

Unlike the Geneva Protocol before it, the BWC is not limited by a focus only on *use* or *states*. Preambular language broadly pronounces the parties were “[d]etermined, for the sake of all mankind, to exclude completely the possibility of bacteriological (biological) agents and toxins being used as weapons.”<sup>52</sup> Despite the state-focused orientation of the BWC and multiple references in the preamble to *state* disarmament,<sup>53</sup> Article V of the BWC imposes an obligation on all States Parties to:

[i]n 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

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<sup>49</sup> See generally U.N. OFF. AT GENEVA, *Membership of the Biological Weapons Convention*, [http://unog.ch/\\_80256ee600585943.nsf/%28httpPages%29/7be6cbb ea0477b52c12571860035fd5c?OpenDocument#\\_Section2](http://unog.ch/_80256ee600585943.nsf/%28httpPages%29/7be6cbb ea0477b52c12571860035fd5c?OpenDocument#_Section2) (last visited Oct. 11, 2014).

<sup>50</sup> See generally *Fact Sheets on Disarmament Issues*, U. N. OFF. FOR DISARMAMENT AFF., <http://www.un.org/disarmament/factsheets/> (last visited Oct. 11, 2014).

<sup>51</sup> Fourth Review Conference, *supra* note 49, at art. I, para. 3..

<sup>52</sup> BWC, *supra* note 4, at 586.

<sup>53</sup> Parties reaffirmed their “[d]etermination to act with a view to achieving effective progress towards general and complete disarmament.” Fourth Review Conference, *supra* note 47, at pt. II.

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Article I of the Convention, within the territory of such State, under its jurisdiction or under its control anywhere.<sup>54</sup>

Thus, while the BWC is not self-executing and does not directly prohibit biological weapons development and retention by non-state actors, the Convention requires *states* to take any necessary measures to prevent such activity within their jurisdiction.<sup>55</sup> This is a large step forward from the Geneva Protocol, which applied only to state behavior. However, because the BWC leaves to the discretion of each State Party the domestic measures required to implement the Convention, only a small number of States Parties have enacted national legislation or taken administrative measures in accordance with this provision of the BWC.<sup>56</sup>

Notably, while Article IV compels states to prohibit and prevent “development, production, stockpiling, acquisition, or retention,” there is no reference to a state’s obligation to prevent *use* of biological weapons.<sup>57</sup> This, combined with the Geneva Protocol’s application only to use of biological weapons by states, means that their use by non-state actors is not a violation of international law *per se*, nor do any international agreements up through and including the BWC require states to prohibit use by those within their jurisdiction.<sup>58</sup> Because using weapons necessarily requires acquiring and possessing them, as stated above, the overall course of conduct is proscribed. Nevertheless, it is curious that no international law specifically outlaws use of biological weapons by non-state actors, or even requires states to ban them within their jurisdictions.

### *c. Cooperation*

Article X of the BWC codifies the right of States Parties to participate in peaceful cooperative endeavors related to biological agents. Specifically, parties agreed to:

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<sup>54</sup> BWC, *supra* note 4, at art. IV.

<sup>55</sup> *Id.*

<sup>56</sup> Masahiko Asada, *Security Council Resolution 1540 To Combat WMD Terrorism: Effectiveness and Legitimacy in International Legislation*, 13 J. CONFLICT & SEC. L. 303, 306-07 (2008).

<sup>57</sup> See generally BWC, *supra* note 4.

<sup>58</sup> See *supra* Part II.A.



facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the use of bacteriological (biological) agents and toxins for peaceful purposes. Parties to the Convention in a position to do so shall also cooperate in contributing individually or together with other States or international organizations to the further development and application of scientific discoveries in the field of bacteriology (biology) for prevention of disease, or for other peaceful purposes.<sup>59</sup>

Thus the BWC sets the stage for international cooperation in biological development for purposes other than weaponization. The problem of definition or distinction—that is, what constitutes appropriate types and quantities of biological agents and what are “peaceful purposes”—is also present here as it relates to international cooperation encouraged in Article X.<sup>60</sup> One significant “other peaceful purpose” is developing defensive countermeasures and appropriate public health response to biological weapon use. The vast majority of biological weapons research today is predicated on these bases.

Cooperation among states is further addressed in Article X(2), where the focus is specifically on the economic development of states, clarifying that the BWC should be implemented to “avoid hampering the economic or technological development of States Parties . . . .”<sup>61</sup> This was further applied to developing countries when the First Review Conference called upon developed countries to increase their “scientific and technological co-operation, particularly with developing countries, in the peaceful uses of bacteriological (biological) agents and toxins . . . [including] the transfer and exchange of information, training of personnel and transfer of materials and equipment on a more systematic and long-term basis.”<sup>62</sup> This encouragement of assistance to, and cooperation with, biological programs in developing countries relates to bioterrorism,

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<sup>59</sup> BWC, *supra* note 4, at art. X(1).

<sup>60</sup> *Id.*

<sup>61</sup> BWC, *supra* note 4, at art. X(2).

<sup>62</sup> Final Declaration of the First Review Conference, Article X, *available at* [http://www.opbw.org/rev\\_cons/1rc/docs/final\\_dec/1RC\\_final\\_dec\\_E.pdf](http://www.opbw.org/rev_cons/1rc/docs/final_dec/1RC_final_dec_E.pdf).

as developing countries are often the location for suspected terrorist bioweapons development.

*d. Verification and Enforcement*

*i. Problem*

In part a problem caused by the dual use issue, verification and enforcement of states' compliance with the BWC is virtually nonexistent in the text of the treaty and in practice. The original BWC does not contain a practical verification provision and the only "compliance" or "enforcement" mechanisms in the BWC are the "consultative" function detailed in Article V:

The States Parties to this Convention undertake to consult one another and to cooperate in solving any problems which may arise in relation to the objective of, or in the application of the provisions of, the Convention. Consultation and cooperation pursuant to this article may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter.<sup>63</sup>

The complaint mechanism of Article VI specifies:

- (1) Any State Party to this Convention which finds that any other State Party is acting in breach of obligations deriving from the provisions of the Convention may lodge a complaint with the Security Council of the United Nations. Such a complaint should include all possible evidence confirming its validity, as well as a request for its consideration by the Security Council.
- (2) Each State Party to this Convention undertakes to cooperate in carrying out any investigation which the Security Council may initiate, in accordance with the provisions of the Charter of the United Nations, on the basis of the complaint received by the Council. The Security Council shall inform the States Parties to the Convention of the results of the investigation.<sup>64</sup>

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<sup>63</sup> BWC, *supra* note 4, at art. V.

<sup>64</sup> *Id.* at art VI.

Since the signing of the BWC, the States Parties have fleshed out a multilateral procedure under Article 5: a “formal consultative meeting” (FCM) can be held to consider an allegation of non-compliance.<sup>65</sup> The procedure allows for some limited information collection and assessment, but includes only information provided by states; no independent information collection is authorized.<sup>66</sup> Thus, the only enforcement available under the BWC is a complaint to the Security Council, which apparently would lead to an investigation.<sup>67</sup> The Security Council would likely have the authority under Chapter VII of the United Nations Charter to authorize action against a State Party that violates its obligations under the BWC. However, it takes time for a state to gather evidence and for the Security Council to conduct an investigation. These factors, combined with the ease of disposal, repurposing, or hiding many of the covered agents, as well as the likely political pressures inherent in the Security Council’s permanent member veto system, make enforcement action against a violator highly unlikely, especially *prior* to use of the weapons.<sup>68</sup>

*ii. Efforts To Strengthen Verification and Enforcement*

From the outset, verification measures for biological weapons control were seen as “dispensable.”<sup>69</sup> Though some

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<sup>65</sup> Angela Woodward, *The BWC and UNSCR 1540*, in *GLOBAL NON-PROLIFERATION AND COUNTER-TERRORISM*, 103-04 (Peter van Ham & Olivia Bosch eds., 2007).

<sup>66</sup> *Id.*

<sup>67</sup> *Id.* at 104.

<sup>68</sup> Though Iraq’s alleged noncompliance with earlier Security Council resolutions related to disarmament served as a basis for a new Security Council resolution relied upon by the United States for its 2003 invasion, it is hard to say whether Iraq’s suspected development and possession of bioweapons alone would have been sufficient cause for action. That is, it seems unlikely that international political will would have been strong enough to act without the possibility of Saddam Hussein’s possession of nuclear weapons as a partial basis for the resolution. Additionally, following the failure to identify significant WMD programs in Iraq after the 2003 invasion, it seems even less likely the world community will be willing to authorize military action in the future for suspected bioweapons development, without evidence of use or imminent use.

<sup>69</sup> JEZ LITTLEWOOD, *THE BIOLOGICAL WEAPONS CONVENTION: A FAILED REVOLUTION* 16 (2005).

countries were concerned with the lack of verification, apparently neither the United States nor the Soviet Union was sufficiently concerned to make verification a critical component of the BWC.

Subsequent repeated efforts have been made to institute a verification and enforcement mechanism, without significant success. These efforts have included a requirement for Confidence Building Measures (“CBMs”), the Ad Hoc Group of Government Experts, also known as VEREX (“Ad Hoc Group” or “VEREX”), and ultimately the failed proposal of a protocol that contained a verification system.<sup>70</sup>

(a.) *Confidence Building Measures*

By the time the second BWC review conference of the States Parties met in September 1986, allegations of Soviet treaty violations,<sup>71</sup> growing suspicions about easily concealable new biotechnology, and the absence of effective verification mechanisms, led to the adoption of several voluntary CBMs.<sup>72</sup> These called for the exchange of information about research centers and laboratories with high-containment facilities as well as data on unusual outbreaks of disease.<sup>73</sup> BWC States Parties agreed to a limited form of transparency by implementing a requirement for states to submit confidence building information annually.<sup>74</sup> These CBMs were augmented by additional requirements at the BWC Third Review

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<sup>70</sup> Woodward, *supra* note 65, at 104-06.

<sup>71</sup> Less than a year after it signed the BWC, the Soviet Union embarked on a massive “clandestine effort in which it concealed a vast network of bioweapons research, development, testing, and production facilities within its existing civilian and military structures under the direction of an organization known as *Biopreparat*.” Beard, *supra* note 27, at 282. Only after a major accident at a military microbiology factory in Sverdlovsk in 1979, and the subsequent defection of key scientists, did the size and scope of the secret Soviet effort begin to become apparent. Beard, *supra* note 27, at 282, citing Michael Moodie, *The Soviet Union, Russia, and the Biological and Toxin Weapons Convention*, NONPROLIFERATION REV. Spring 2001, at 59, 60-61.

<sup>72</sup> Michael Moodie, *The Soviet Union, Russia, and the Biological and Toxin Weapons Convention*, NONPROLIFERATION REV., Spring 2001, at 64.

<sup>73</sup> Beard, *supra* note 27, at 282-83.

<sup>74</sup> *See id.*

Conference in 1991.<sup>75</sup> The current CBM regime requires States Parties to report data on various issues to all other States Parties.<sup>76</sup> Reports must include information on laboratories and research centers, national biological defense research and development, outbreaks of infectious diseases that deviate from “normal patterns,” and past activities in offensive or defensive biological research and development.<sup>77</sup> They also must cover efforts to encourage publication of results of biological research directly related to the BWC; declaration of legislation, regulations, or other measures states have taken to implement the BWC; and declaration of vaccine production facilities.<sup>78</sup>

Unfortunately, many states seem to have taken lightly their obligations to exchange information regarding their adherence to Article IV of the BWC, failing to provide it either by means of regular and meaningful participation in the CBM exchanges or at Convention Review Conferences.<sup>79</sup> Though the United Nations Department for Disarmament Affairs catalogued States Parties’ reports on their measures to implement the BWC prohibitions, many states have apparently failed to review the *effectiveness* of their biological weapons legislation.<sup>80</sup>

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<sup>75</sup> See Third Review Conference of the States Parties to the Biological Weapons Convention, Geneva, Switz., Sept. 9-27 1991, *Third Review Conference of the Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction*, U.N. DOC. BWC/CONF.III/23, Final Document, Final Declaration [hereinafter Third Review Conference].

<sup>76</sup> See *id.*

<sup>77</sup> *Id.* at 4-5.

<sup>78</sup> *Id.* The Third Review Conference promulgated forms on which the States Parties were to provide this information. *Id.* at Annex to Final Declaration on Confidence Building Measures.

<sup>79</sup> Woodward, *supra* note 65, at 105.

<sup>80</sup> *Id.* at 105-06. In addition to these efforts, the non-governmental organization VERTIC collects and catalogs States Parties’ implementing legislation. VERTIC DATASET: BIOLOGICAL WEAPONS CONVENTION: COLLECTION OF NATIONAL IMPLEMENTATION LEGISLATION, <http://www.vertic.org/pages/homepage/programmes/national-implementation-measures/biological-weapons-and-materials/bwc-legislation-database/introduction.php> (last visited Oct. 7, 2014).

(b) *Ad Hoc Group and BWC Protocol*

The Third Review Conference in 1991 took a more ambitious path to improve the BWC's effectiveness by devoting a substantial amount of time to remedying the verification problem. As noted above, this included augmented CBMs, but the Third Review Conference also established an Ad Hoc Group of Governmental Experts ("Ad Hoc Group" or "VEREX") to identify and examine potential verification measures from a scientific and technical standpoint.<sup>81</sup> Creation of the Ad Hoc Group was likely the most important development in pushing toward a verification regime. Over the course of nearly a decade and through twenty-four sessions, the Ad Hoc Group worked to produce a proposed protocol ("BWC Protocol"), which contained a specific list of prohibited materials and quantity thresholds, and called for (1) states to declare their biodefense programs and other bioresearch and commercial pharmaceutical facilities, (2) site-check visits to encourage accurate and honest declarations, and (3) challenge inspections in cases of alleged non-compliance.<sup>82</sup>

By 2001, the draft protocol had reached an advanced stage.<sup>83</sup> However, the United States, at one time a strong supporter of improved verification under the BWC, abruptly rejected the draft protocol.<sup>84</sup> The U.S. believed it would "misdirect world attention into non-productive channels" and "not enhance our confidence in compliance and . . . do little to deter those countries seeking to develop biological weapons, [and] would put national security and confidential business information at risk."<sup>85</sup>

This last-minute and rather spectacular rejection of the BWC Protocol, the United States' failure to offer significant alternative

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<sup>81</sup> Third Review Conference, *supra* note 75.

<sup>82</sup> JOYNER, *supra* note 46, at 97-98; KELLMAN, *supra* note 13, at 194.

<sup>83</sup> JOYNER, *supra* note 46, at 98.

<sup>84</sup> *Id.*

<sup>85</sup> Nicole Deller & John Burroughs, *Arms Control Abandoned: The Case of Biological Weapons*, 20 WORLD POL'Y J. no. 2, 2003, at 37 (quoting Donald Mahley, Special Negotiator for Chemical and Biological Arms Control, Head of the U.S. Ad Hoc Group Delegation).

ideas, and its disastrous, last-minute proposal at the BWC Fifth Review Conference to disband the Ad Hoc Group altogether, resulted in the termination of significant efforts to obtain approval of such a protocol or any significant strengthening of the BWC, a status that continues to present.<sup>86</sup> Though some nations continue to discuss the need for verification, without the support of several major actors on the world stage, such discussions are unlikely to advance to implementation of a verification regime.

Despite the procedures available under the BWC for referral to the Security Council, in practice no assertions of non-compliance have been referred to the Security Council, even in cases of overwhelming and credible evidence.<sup>87</sup> Additionally, the Security Council has initiated no actions under, or for violations of, the BWC.<sup>88</sup> Thus, the effectiveness of the “standard” enforcement regime articulated in BWC is untested and unknown.

### C. *U.N. Security Council Resolution 1540, 2004*

Though not limited solely to biological weapons, United Nations Security Council Resolution 1540 (“UNSCR 1540”), passed in 2004, is currently the binding international agreement most directly, and arguably most effectively, addressing bioterrorism prevention.<sup>89</sup> UNSCR 1540 was adopted unanimously amidst post-9/11 concerns and urgency to keep WMD away from terrorists or rogue states.<sup>90</sup> While also working through the non-treaty Proliferation Security Initiative, the United States pushed the idea of

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<sup>86</sup> See JOYNER, *supra* note 46, at 98 (quoting, in part, Jez Littlewood); KELLMAN, *supra* note 13, at 195. The United States’ current position remains consistent with that of the preceding Bush administration: “The Obama Administration will not seek to revive negotiations on a verification protocol to the Convention. We have carefully reviewed previous efforts to develop a verification protocol and have determined that a legally binding protocol would not achieve meaningful verification or greater security.” Tauser, *supra* note 5.

<sup>87</sup> Woodward, *supra* note 65, at 104.

<sup>88</sup> *Id.*

<sup>89</sup> S.C. Res. 1540, U.N. Doc. S/RES/1540 (Apr. 28, 2004).

<sup>90</sup> Giving flesh to these general post-9/11 concerns was the December 2003 revelation of the Khan global smuggling network for nuclear weapon-related technologies, which included end-users such as Iran, Libya, and North Korea. PETER VAN HAM & OLIVIA BOSCH, GLOBAL NON-PROLIFERATION AND COUNTER-TERRORISM, 3-4 (2007).

criminalizing WMD internationally.<sup>91</sup> In an address to the U.N. General Assembly, President George W. Bush specifically asked the U.N. Security Council “. . . to adopt a new anti-proliferation resolution. This resolution should call on all members of the U.N. to criminalize the proliferation of . . . weapons of mass destruction, to enact strict export controls consistent with international standards, and to secure any and all sensitive materials within their own borders.”<sup>92</sup>

Though UNSCR 1540 is most accurately labeled a non-proliferation measure, it is significant as a counter-terrorism tool.<sup>93</sup> In the bioterrorism context, UNSCR 1540’s key developments beyond the BWC are (1) a focus on non-state actors; (2) the effect of a U.N. Security Council Resolution, including application to states not parties to BWC; (3) greater specificity regarding measures states must take to help prevent bioterrorism; and (4) a first step in the

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<sup>91</sup> According to the U.S. State Department:

The Proliferation Security Initiative (PSI) is a global effort that aims to stop trafficking of [WMD], their delivery systems, and related materials to and from states and non-state actors of proliferation concern. Launched on May 31, 2003, U.S. involvement in the PSI stems from the U.S. National Strategy to Combat Weapons of Mass Destruction issued in December 2002. That strategy recognizes the need for more robust tools to stop proliferation of WMD around the world, and specifically identifies interdiction as an area where greater focus will be placed. President Obama strongly supports the PSI. In his April 2009 Prague speech, President Obama first called for the PSI to continue as an enduring international counterproliferation effort.

U.S. DEP’T OF STATE, PROLIFERATION SECURITY INITIATIVE, <http://www.state.gov/t/isn/c10390.htm> (last visited Oct. 24, 2014). Though the PSI is a significant tool for bioterrorism prevention, it is not discussed in this Article because it is a non-binding, non-legal instrument.

<sup>92</sup> Press Release, The White House Office of the Press Secretary, President Bush Addresses United Nations General Assembly (Sept. 23, 2003) (available at <http://georgewebush-whitehouse.archives.gov/news/releases/2003/09/20030923-4.html>).

<sup>93</sup> It is important to note that in conjunction with other terrorism-related Security Council resolutions, such as UNSCR 1267 (resolution aimed at those supporting the Taliban or Al-Qaeda), UNSCR 1373 (requiring all UN states to combat terrorism, with the UN as the focal point at the global level), and UNSCR 1566 (condemning terrorism and offering a widely used definition of terrorism), UNSCR 1540 is part of a family of resolutions to combat terrorism and prevent use of WMD by terrorists. VAN HAM & BOSCH, *supra* note 90, at 7-9.



direction of a quasi-compliance body with some very limited verification and enforcement role.<sup>94</sup>

### 1. Focus on Non-State Actors

At the time of the BWC's passage, the international concern related to *states'* use of biological weapons. Accordingly, as noted above, the BWC, like its Nuclear Non-Proliferation Treaty ("NPT")<sup>95</sup> and CWC counterparts, applies primarily to states.<sup>96</sup> By contrast, at the time of the passage of UNSCR 1540, the concern had shifted to rogue states and terrorist organizations.<sup>97</sup> The focus on non-state actors is apparent from the first paragraphs of the resolution in which the United Nations Security Council:

1. *Decides that* all States shall refrain from providing any form of support to non-State actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery;
2. *Decides also that* all States, in accordance with their national procedures, shall adopt and enforce appropriate effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes, as well as attempts to engage in any of the foregoing activities, participate in them as an accomplice, assist or finance them . . . .<sup>98</sup>

Thus, states are both prohibited from assisting non-state actors and compelled to adopt procedures and *effective* laws, which must be enforced, that prohibit non-state actors from using and developing biological weapons. Not only are non-state actors referenced, they are defined as an "individual or entity, not acting under the lawful

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<sup>94</sup> S.C. Res. 1540, *supra* note 89.

<sup>95</sup> Treaty on the Non-Proliferation of Nuclear Weapons, July 1, 1968, 21 U.S.T. 483, 729 U.N.T.S. 161.

<sup>96</sup> BWC, *supra* note 4.

<sup>97</sup> According to the preambular language of the resolution, the UNSCR was "*gravely concerned* by the threat of terrorism and the risk that non-State actors . . . may acquire, develop, traffic in or use nuclear, chemical and biological weapons and their means of delivery . . ." S.C. Res. 1540, *supra* note 89 (emphasis original).

<sup>98</sup> *Id.*

authority of any State in conducting activities which come within the scope of this resolution.”<sup>99</sup> This demonstrates the central concern of the resolution’s drafters, though UNSCR 1540 is not facially limited to terrorists.

## 2. The Effect of a U.N. Security Council Resolution, Including Application to States Not Parties to BWC

A significant element of UNSCR 1540’s expansion beyond the BWC is the nature of the instrument itself: as a Security Council resolution under authority of Chapter VII of the United Nations Charter, it is binding on all states.<sup>100</sup> Thus, states may not avoid their legal obligations regarding biological weapons prevention—whether because they wish to permit non-state actors to develop such weapons or because of a lack of economic or political capacity—by

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<sup>99</sup> *Id.*

<sup>100</sup>As with many other Security Council resolutions, UNSCR 1540 cites Chapter VII of the UN Charter as its source of authority without identifying specific articles. In the resolution, the Security Council declared that “proliferation of nuclear, chemical and biological weapons, as well as their means of delivery . . . constitutes a threat to international peace and security.” Ostensibly, the Security Council’s authority for UNSCR 1540 comes from UN Charter Article 39 (“The Security Council shall determine the existence of any threat to the peace, breach of the peace, or act of aggression and shall make recommendations, or decide what measures shall be taken . . . to maintain or restore international peace and security.”), Article 42 (“The Security Council may decide what measures not involving the use of armed force are to be employed to give effect to its decisions, and it may call upon the Members of the United Nations to apply such measures.”), Article 48 (“The action required to carry out the decisions of the Security Council for the maintenance of international peace and security shall be taken by all the Members of the United Nations or by some of them, as the Security Council may determine. Such decisions shall be carried out by the Members of the United Nations directly and through their action in the appropriate international agencies of which they are members.”), and Article 49 (“The Members of the United Nations shall join in affording mutual assistance in carrying out the measures decided upon by the Security Council.”). U.N. Charter art. 39, 42, 48-49. Not all scholars agree the UN Security Council can adopt such binding resolutions under Chapter VII. See Daniel H. Joyner, *Non-Proliferation Law and the United Nations System: Resolution 1540 and the Limits of the Power of the Security Council*, 20(2) LEIDEN J. INT’L L. 489, 489-518 (2007) (arguing Resolution 1540 is null and void of legal effect, because it was adopted under Chapter VII rather than under Articles 11 and 26 of the UN Charter, the latter being the only authoritative basis for the creation of new non-proliferation law).

choosing not to be a party to the BWC.<sup>101</sup> Further, one could expect that even if the net content of obligations under a Security Council resolution were the same as those under a treaty, requirements stated in a legally binding Security Council resolution would be respected more and implemented better than those in a treaty, particularly if the insufficient implementation of treaty obligations is due to a lack of political will.<sup>102</sup>

It is important to note that this strength—namely, the muscle of a Security Council resolution that binds all nations—is subject to considerable controversy and is a source of possible weakness. The strongest objection to UNSCR 1540 is that it is a clear example—possibly the first of significance—of the Security Council *legislating* world policy. While the Security Council has repeatedly cited U.N. Charter Chapter VII as authority to impose new requirements and create new legal mechanisms (for example, the International Criminal Tribunals for Rwanda and Yugoslavia), such actions had previously focused on *specific situations* the Security Council determined to be a threat to the peace.<sup>103</sup> In contrast, the measures contained in UNSCR 1540's operative paragraphs are

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<sup>101</sup> During the drafting of the resolution, India stated it would “not accept any interpretation of the draft resolution that imposes obligations arising from treaties that India has not signed or ratified, consistent with the fundamental principles of international law and the law of treaties.” Asada, *supra* note 56, at 316. This and similar other concerns were somewhat accommodated in certain paragraphs of the resolution which, for instance, affirm the importance for ‘all States parties’ to WMD treaties to implement them fully, or call upon all states to promote the universal adoption and full implementation of WMD non-proliferation treaties ‘to which they are parties.’ *Id.* Nevertheless, such accommodations do not change the fact that UNSCR 1540 does oblige states not party to the BWC to take the kind of national measures that the States Parties to it are supposed to take. *Id.* Additionally, it should not be forgotten that what Resolution 1540 emphasizes is not those WMD treaties *per se* but the relevant national legislation and other regulations and controls that provide the basis for action against non-state actors. *Id.*

<sup>102</sup> Asada, *supra* note 56, at 315.

<sup>103</sup> See S.C. Res. 955, U.N. Doc. S/RES/955 (Nov. 8, 1994); S.C. Res. 827, U.N. Doc. S/RES/827 (May 25, 1993).

general in nature, applying globally to WMD non-proliferation, without reference to perceived problem states or situations.<sup>104</sup>

While the purpose of this Article is not to discuss the legality of this so-called “international legislation,” one must understand the controversy surrounding UNSCR 1540 and its groundbreaking status in order to assess its effectiveness. Scholarly support for the Security Council legislating in this area is strong. For example, Professor Barry Kellman argues:

If a matter of international peace and security requires implementation of obligations that, in another context, might be the substance of a treaty, the Security Council can (and, according to the charter process, should) trump the treaty-making process. One reason for this trump of authority is precisely because the Security Council is better able to shear away extraneous considerations from the treaty negotiation process and make decisions more quickly that have more direct and exclusive bearing on resolving the security threat. When the issue arises to the most important category of concerns (war and peace), the process is not meant to epitomize participatory democracy of sovereign states; it is meant to get the job done.<sup>105</sup>

Professor Masahiko Asada’s outstanding discussion of the “international legislation” debate in the context of UNSCR 1540 identifies three principal objections to the UNSCR 1540 as “international legislation.”<sup>106</sup> The first concerns the formulation of legal rules by a limited number of states. That is, legislation by the

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<sup>104</sup> Barry Kellman, *Criminalization and Control of WMD Proliferation: The Security Council Acts*, 11(2) NONPROLIFERATION REV. 142 (2004).

<sup>105</sup> *Id.* at 159; see also Asada, *supra* note 56, at 325 (citing Christian Tomuschat, *Obligations Arising for States Without or Against Their Will*, 241 RECUEIL DES COURS 344, 345 (1993-IV) (arguing “If prevention is the philosophical concept underlying Article 39 [of the UN Charter], then it must also be possible that the Security Council, in a more abstract manner, without having regard to the particular nature of a regime, outlaws certain activities as being incompatible with fundamental interests of the international community”)); K. Harper, *Does the United Nations Security Council Have the Competence to Act as Court and Legislature?*, 27(1) N.Y.U. J. INT’L L. & POL. 149 (1994).

<sup>106</sup> Asada, *supra* note 56, at 322-23.

Security Council means fifteen states establish general rules that legally bind 192 members of the United Nations, binding the vast majority of states in the international community to the resulting rules without allowing them participation in the drafting process.<sup>107</sup> The second principal concern is the lack of process that would exist in treaty negotiations. Some states object that the Security Council simply lacks the competence to take all parties' interests into account and that compliance with treaty by fiat may be impossible for some states.<sup>108</sup> The third objection is the broadest and most significant: the imposition on freedom and sovereignty. In the case of treaty, states have the freedom to join or not to join, irrespective of their participation in the treaty-making process. With such a freedom, they can safeguard their national interest and sovereign rights. However, Security Council legislation does not allow such sovereign freedom.<sup>109</sup>

The weakness these issues inject is primarily a question of compliance: whether states who challenge the legality of the Security Council's action will comply, and if not, whether the Security Council will be willing to authorize action. If the fifteen Council members enact international legislation for the entire international community without broader outside support, states may argue such "legislation" is invalid and simply choose not to comply, thereby weakening the binding power of the Security Council's Chapter VII resolutions in general.<sup>110</sup> Thus, this method of last resort should be utilized with caution.

It is important to note that UNSCR 1540 does not *ipso facto* authorize enforcement action against states that fail or are unable to comply with the obligations imposed by the resolution.<sup>111</sup> According to the opinion of most nations and international law scholars,

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<sup>107</sup> *Id.*

<sup>108</sup> *Id.*

<sup>109</sup> *Id.* at 324-25

<sup>110</sup> *Id.* at 324-25. This would be a serious blow to the UN collective security system as a whole. Frequent resort to the binding Council resolutions in place of multilateral treaty-making or treaty-amendment processes could also become a serious threat to the international legal order that is increasingly based on multilaterally negotiated treaties and agreements. *Id.*

<sup>111</sup> S.C. Res. 1540, *supra* note 89.

enforcement action against a violator would require an additional authorization from the Security Council.<sup>112</sup>

In addition to the increased “jurisdictional” reach of UNSCR 1540, its provisions are important because they further strengthen international and domestic norms against biological weapons development. From an international law perspective, UNSCR 1540’s requirements establish customary international law norms. Many international law experts would likely argue that the BWC’s prohibitions against bioweapons extended to all states even before the adoption of UNSCR 1540.<sup>113</sup> At a minimum, the resolution further cements the prohibition as customary international law. Additionally, some observers argue that the application of UNSCR 1540 to states not parties to the BWC may encourage those states to join the BWC.<sup>114</sup> Finally, states’ individual efforts to implement legislation as a result of UNSCR 1540 create domestic norms.

### 3. New and More Specific Bioterrorism<sup>115</sup> Controls

UNSCR 1540 is significant in that it prescribes new and detailed measures regarding specific controls of a type not usually found in arms control treaties. On the matter of prescribing measures, the Security Council decided that

all States shall take and enforce effective measures to establish domestic controls to prevent the proliferation of nuclear, chemical, or biological weapons and their means of delivery, including by establishing appropriate controls over related materials and to this end shall:

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<sup>112</sup> Asada, *supra* note 56, at n. 39 (noting the concerns of Philippines, Pakistan, and the United States).

<sup>113</sup> See generally Barry Kellman, DRAFT: *Preventing Bio-Violence – The Need for International Legal Action*, available at [https://www.princeton.edu/sgs/seminars/biosecurity/archives/2005-2006-workshop/Kellman\\_Bio-essay-Draft-31January.pdf](https://www.princeton.edu/sgs/seminars/biosecurity/archives/2005-2006-workshop/Kellman_Bio-essay-Draft-31January.pdf).

<sup>114</sup> Woodward, *supra* note 65, at 107.

<sup>115</sup> Though UNSCR 1540 relates to all WMD, not just biological weapons, its impact is greatest on bioterrorism because of the then-existing dearth of international law and enforcement in the biological weapons arena, especially as compared with nuclear and chemical WMD.

- (a) Develop and maintain appropriate effective measures to account for and secure such items in production, use, storage or transport;
- (b) Develop and maintain appropriate effective physical protection measures;
- (c) Develop and maintain appropriate effective border controls and law enforcement efforts to detect, deter, prevent and combat, including through international cooperation when necessary, the illicit trafficking and brokering in such items in accordance with their national legal authorities and legislation and consistent with international law;
- (d) Establish, develop, review and maintain appropriate effective national export and trans-shipment controls over such items, including appropriate laws and regulations to control export, transit, trans-shipment and re-export and controls on providing funds and services related to such export and trans-shipment such as financing, and transporting that would contribute to proliferation, as well as establishing end-user controls; and establishing and enforcing appropriate criminal or civil penalties for violations of such export control laws and regulations.<sup>116</sup>

By extending far beyond the BWC's banning of developing, acquiring, manufacturing, possessing, transporting, or transferring biological weapons, UNSCR 1540 provides specific actions states must take to meet their international obligations, including measures regarding security, physical protection, and border and export controls.<sup>117</sup>

Importantly, these specific controls relate not just to the weapons themselves, but to "related materials," which are broadly defined in UNSCR 1540 as "materials, equipment and technology

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<sup>116</sup> S.C. Res. 1540, *supra* note 89, at 3.

<sup>117</sup> *Id.* UNSCR 1540 legally obligates all UN members to "[e]stablish, develop, review and maintain appropriate effective national export and transshipment controls" over WMD and their means of delivery as well as related materials, including appropriate laws and regulations to control export, transit, trans-shipment and reexport and establish and enforce appropriate criminal or civil penalties for violations. Asada, *supra* note 56, at 318. This is an extraordinary method of mandating extensive national export control systems so extensively in a manner much more quickly and effectively than at typical treaty. *Id.*

covered by relevant multilateral treaties and arrangements, or included on national control lists, which could be used for the design, development, production or use of nuclear, chemical and biological weapons and their means of delivery.”<sup>118</sup> Notably, this is the first time “means of delivery” are addressed in an international agreement related to biological weapons.<sup>119</sup> Thus, equipment that could be used to deliver bioweapons must be controlled.<sup>120</sup> This is an important feature of the resolution, as there exists no global treaty regulating their development, production, or possession in the bioweapons context.

UNSCR 1540 still does not provide a true independent international body for compliance and also does not prescribe specific standards (e.g., what specific physical protection measures must be taken to meet international standards).<sup>121</sup> However, it at least creates a regime whereby states do have obligations in a wide variety of areas, including security, physical protection, law enforcement, and export controls. Importantly, states are required not only to legislate in all these areas, but also to *enforce* such legislation.<sup>122</sup>

Though identifying specific areas governments must tackle is clearly a positive development, it does create complexity for states that wish to comply. When implementing legislation under UNSCR 1540, states must strike a difficult balance between biosecurity and biosafety, and scientific and commercial need. Like in the area of verification and enforcement, the problem of dual use arises here.

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<sup>118</sup> Press Release, Security Council, Security Council Decides All States Should Act to Prevent Proliferation of Mass Destruction Weapons, U.N. Press Release SC/8076 (Apr. 28, 2004).

<sup>119</sup> *Id.*

<sup>120</sup> *See id.* One naturally wonders how this provision could be enforced, given the rather common tools that can be used, such as crop-dusters, or even envelopes, in the case of anthrax.

<sup>121</sup> *See* Scott Jones, *Resolution 1540: Universalizing Export Control Standards?*, [http://www.armscontrol.org/act/2006\\_05/1540](http://www.armscontrol.org/act/2006_05/1540) (last visited Oct. 1, 2014).

<sup>122</sup> Olivia Bosch, U.N. Committee Export Report, *United Nations Security Council Resolution 1540: Can Compliance be easy?*, available at <http://www.un.org/en/sc/1540/transparency-and-outreach/outreach-events/pdf/expert-presentation-2012-3-malta.pdf> (last visited Oct. 14, 2014).



The biological research laboratories of the world cannot be closed or research efforts significantly restricted because of concerns over bioterrorism.<sup>123</sup> Indeed, it may well be that the natural (evolutionary) disease threats they tackle are more dangerous to the global community than the threat of bioterrorism. Thus, while implementing specific legislation as required under UNSCR 1540, governments necessarily must consult with and develop laws around the needs of industry and academia, recognizing that nature and evolution can be more dangerous than terrorists.

#### 4. First Step in Direction of a Quasi-Compliance Body

The BWC provides no organizing or compliance verification body similar to the International Atomic Energy Agency (“IAEA”) for nuclear weapons and material and the Organization for the Prohibition of Chemical Weapons (“OPCW”) for chemical weapons.<sup>124</sup> The lack of an institutional compliance body for *biological* weapons is explicitly clear in the text of UNSCR 1540, which calls upon states to multilateral cooperation “within the framework of the International Atomic Energy Agency, the Organization for the Prohibition of Chemical Weapons and the Biological and Toxin Weapons Convention . . . .”<sup>125</sup> Thus, in the nuclear and chemical arenas, states are exhorted to work with the compliance and oversight bodies, whereas in the biological arena, the only reference is to working within the “Convention.” Though not its stated goal, and it is unlikely the Security Council intended it as such, in some respects UNSCR 1540 fills some of this void by creating a committee with some of the responsibilities those

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<sup>123</sup> Jeffrey Almond, *Industry Codes of Conduct*, in GLOBAL NON-PROLIFERATION AND COUNTER-TERRORISM 125, 133 (Peter van Ham & Olivia Bosch eds., 2007).

<sup>124</sup> MELISSA GILLIS, DISARMAMENT: A BASIC GUIDE 45 (3d ed. 2012), available at [http://www.un.org/disarmament/HomePage/ODAPublications/AdhocPublications/PDF/Basic\\_Guide-2011-web-Rev1.pdf](http://www.un.org/disarmament/HomePage/ODAPublications/AdhocPublications/PDF/Basic_Guide-2011-web-Rev1.pdf). In fact, in the nuclear and chemical weapons arenas, some critics argue UNSCR 1540 unnecessarily duplicates the IAEA and OPCW. Thomas J. Biersteker, *Lessons for UNSCR 1540*, in GLOBAL NON-PROLIFERATION AND COUNTER-TERRORISM 24, 38 (Peter van Ham & Olivia Bosch eds., 2007).

<sup>125</sup> S.C. Res. 1540, *supra* note 89, at para. 8(c); Press Release, *supra* note 118.

international compliance bodies fulfill in the nuclear and chemical weapons arenas.<sup>126</sup>

Operative paragraph 4 of UNSCR 1540 creates a Security Council committee (“the 1540 Committee”), which receives and reviews state reports regarding the steps they have taken to implement UNSCR 1540.<sup>127</sup> For example, the 1540 Committee recently reported the following progress regarding state compliance with UNSCR 1540 in the area of biological weapons:

112 States have a national legal framework prohibiting the manufacture or production of biological weapons, compared to 86 in 2008. By 1 April 2011, 95 States had adopted enforcement measures related to the manufacture or production of biological weapons, compared to 83 in 2008.

...

By 1 April 2011, 133 States had adopted enforcement measures related to the manufacture, acquisition, possession, stockpiling, development, transfer, transport or use of such weapons, compared to 76 in the 2008 report.<sup>128</sup>

The Security Council has renewed the 1540 Committee several times, most recently for 10 years until 25 April 2021.<sup>129</sup> To date, this committee has acted as a clearinghouse for information exchange between states and has been the primary “verification” mechanism for determining states’ compliance with UNSCR 1540.<sup>130</sup>

#### *a. Clearinghouse*

A key aspect of the 1540 Committee’s work is acting as an information clearinghouse, through which states can provide or request information to or from other states regarding best practices, and a forum for

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<sup>126</sup> S.C. Res. 1540, *supra* note 89, at para. 4.

<sup>127</sup> *Id.*

<sup>128</sup> Report of the Committee established pursuant to Security Council Resolution 1540 (2004), U.N. Doc. S/2011/579, paras. 47-48 (Sep. 14, 2011) [hereinafter Third Report of the 1540 Committee].

<sup>129</sup> S.C. Res. 1977, U.N. Doc. S/RES/1977, para. 3 (Apr. 20, 2011).

<sup>130</sup> See Third Report of the 1540 Committee, *supra* note 128.

identification of effective and efficient practices for sharing experience [which] promotes the implementation of [UNSCR 1540], improves the quality of measures taken by States, conserves their resources and can prevent unnecessary duplication of effort. More effective policies will attract greater international support, essential to the capacity-building required by most States and, more likely, also domestic support, upon which the implementation of the resolution depends.

...

To facilitate the sharing of experience, the Committee has prepared a list of relevant examples to which States may wish to refer in implementing [UNSCR 1540]. The set of practices for sharing experience appears in annex XVI.<sup>131</sup>

Additionally, the 1540 Committee provides what it terms a “matchmaking” service under which it matches requests for offers of assistance in implementing UNSCR 1540’s mandates.<sup>132</sup>

#### *b. Verification*

The “verification” regime of UNSCR 1540, as conducted by the 1540 Committee, is meek. The 1540 Committee’s assessment of states’ reports is limited to cataloging the status of implementation efforts.<sup>133</sup> Importantly, the 1540 Committee does not assess the *effectiveness* of a state’s enforcement of its laws. Verifying states’ efforts at implementation is an important first step in verification of actual compliance with the norms against developing, producing, and using biological weapons.

UNSCR 1540’s system for requiring and reviewing state declarations is more effective than the confidence building measure data exchange process under BWC, Article 5.<sup>134</sup> However, UNSCR 1540 does not provide the 1540 Committee with any independent

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<sup>131</sup> Third Report of the 1540 Committee, *supra* note 128, at paras. 93-94.

<sup>132</sup> *Id.* at paras. 105-16.

<sup>133</sup> See Richard T. Cupitt, *Nearly at the Brink: The Tasks and Capacity of the 1540 Committee*, ARMS CONTROL ASSOCIATION, [http://www.armscontrol.org/act/2012\\_09/Nearly-at-the-Brink-The-Tasks-and-Capacity-Of-the-1540-Committee](http://www.armscontrol.org/act/2012_09/Nearly-at-the-Brink-The-Tasks-and-Capacity-Of-the-1540-Committee) (last visited Oct. 20, 2014).

<sup>134</sup> Woodward, *supra* note 65, at 106-07.

information-gathering authority, though it does gather and consider information made available by states either through reports to other treaty organizations or to the public.<sup>135</sup> The inability to collect evidence independently is certainly a gap in the effectiveness of the 1540 Committee, and is a key element of the recommendations made below for improvement to the international legal regime for prevention of bioterrorism.

#### D. Other International Law Mechanisms

A patchwork of other international law mechanisms affects bioterrorism, though to a much lesser degree than those discussed above. These instruments include the 1997 International Convention for the Suppression of Terrorist Bombings (“Terrorist Bombing Convention”),<sup>136</sup> the 2005 Protocol to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (the “SUA Protocol”),<sup>137</sup> and the 2010 Beijing Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation (“Beijing Convention”).<sup>138</sup>

The Terrorist Bombing Convention criminalizes the unlawful and intentional use of “explosives and other lethal devices” in, into, or against various defined public places with the intent to cause death or serious bodily injury, or with the intent to cause extensive destruction of such a place. It also establishes a semi-universal jurisdiction as well as the *aut dedere aut judicare* principle for the offenses.<sup>139</sup> According to the definition given in the Convention, “explosives and other lethal devices” include “a weapon

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<sup>135</sup> *Id.* at 106.

<sup>136</sup> International Convention for the Suppression of Terrorist Bombings, U.N. Doc. A/RES/52/164 (Jan. 9, 1998) [hereinafter Terrorist Bombing Convention].

<sup>137</sup> INT’L MARITIME ORG. [IMO], *Protocol of 2005 to the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation*, IMO Doc. LEG/CONF. 15/21 (Nov. 1, 2005), S. Treaty Doc. No. 110-8, 2006 WL 5003319 [hereinafter SUA Protocol].

<sup>138</sup> Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation, Sept. 10, 2010, DCAS Doc No. 21 [hereinafter Beijing Convention], available at [https://www.unodc.org/tldb/en/2010\\_convention\\_civil\\_aviation.html](https://www.unodc.org/tldb/en/2010_convention_civil_aviation.html). As of this writing, the Beijing Convention is not yet in effect.

<sup>139</sup> Terrorist Bombing Convention, *supra* note 136, at art. 2, 4, 6, 8.

or device that is designed, or has the capability to cause death, serious bodily injury, or substantial material damage through the release, dissemination or impact of toxic chemicals, biological agents or toxins or similar substances or radiation or radioactive material.”<sup>140</sup>

Two transportation-related treaties also purport to control bioterrorism by criminalizing the transportation of various WMD, including biological weapons, in civil aviation (Beijing Convention) and maritime (SUA Protocol) modes.<sup>141</sup> Along with outlawing a number of other aviation-related terrorist acts, the Beijing Convention makes it an offense to unlawfully and intentionally transport by civil aircraft biological, chemical, and nuclear (“BCN”) weapons or equipment, materials, or related technology that significantly contributes to the design, manufacture, or delivery of a BCN weapon.<sup>142</sup> The Beijing Convention creates broad jurisdiction over offenders and further reinforces the *aut dedere aut judicare* principle.<sup>143</sup> Both the Beijing Convention and SUA Protocol employ the BWC’s definition of biological weapons.<sup>144</sup> In addition, the SUA Protocol provides useful ship boarding procedures in the event of suspected terrorist activity, including illegal transportation of WMD.<sup>145</sup>

Each of the international legal instruments discussed in this section is a possible useful tool in the prosecution of bioterrorist activity. However, given the existing mandate of UNSCR 1540 for broad criminalization of most of these activities, the bioweapons-related provisions of these treaties are more duplicative and confirmatory of the requirements of UNSCR 1540 than they are new and groundbreaking developments.

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<sup>140</sup> *Id.* at art. 1, para. 3(b).

<sup>141</sup> Beijing Convention, *supra* note 138; SUA Protocol, *supra* note 137.

<sup>142</sup> Beijing Convention, *supra* note 138, at art 1(i).

<sup>143</sup> Michael Jennison, *The Beijing Treaties of 2010: Building A "Modern Great Wall" Against Aviation-Related Terrorism*, 23 No. 3 AIR & SPACE L. 9, 10 (2011).

<sup>144</sup> Beijing Convention, *supra* note 138; SUA Protocol, *supra* note 137.

<sup>145</sup> SUA Protocol, *supra* note 137.

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## II. THE NET EFFECT OF INTERNATIONAL LAWS AFFECTING PREVENTION OF BIOTERRORISM

The international legal mechanisms discussed above are the only ones that significantly affect the prevention of bioterrorism. As discussed, each instrument suffers deficiencies. Also, the sum of those instruments—the “net effect”—leaves the international legal regime affecting the prevention of bioterrorism with several problems. These issues include (1) no clear definition of what constitutes a bioweapon and which agents are banned in what quantities, (2) no adequate verification and inspection regime or body, (3) no significant enforcement mechanism, and (4) no safety net for states that lack the capacity to implement and enforce meaningful restrictions on bioweapon development and production within their jurisdictions (especially for developing states where terrorist-driven bioweapons development is most likely to occur).<sup>146</sup> Each of these issues is summarized below, concluding with a brief recommendation for improvement in each area.<sup>147</sup>

### A. *No Meaningful Definition of Biological Weapon*

#### 1. The Issue

There is no internationally accepted legal definition of “biological weapon” that goes beyond the BWC’s vague and nearly impossible-to-implement definition, which turns on the possessor’s intent and whether there exists an alternative justification for possessing the agent in question. In addition, there is no

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<sup>146</sup> This list is not exhaustive. Other problems also exist, such as the complicated area of regulating bioresearch under UNSCR 1540-mandated legislation. See generally S.C. Res. 1540, *supra* note 89. Prosecutions in the United States demonstrate the difficulty of legislating effectively and predictably enough for the scientific community to proceed with confidence they are doing so legally. See Gerald L. Epstein, *Law Enforcement and the Prevention of Bioterrorism: Its Impact on the U.S. Research Community*, in GLOBAL NON-PROLIFERATION AND COUNTER-TERRORISM, 180-85 (Peter van Ham & Olivia Bosch eds., 2007).

<sup>147</sup> Due to the myriad problems with the current international legal system affecting bioterrorism, identifying remedies and recommending fixes could fill an entire book. Such recommendations are outside the scope of this article, but are included to provoke thought for a possible way ahead.

authoritative list of prohibited agents. A primary objection of those who oppose creating an authoritative list of prohibited agents is that such schedules will immediately be obsolete and that no list could be permanent.

## 2. Recommendation: A Multi-Layered Definition

A multi-layered approach to defining bioweapons should be instituted, with the current intent-based definition maintained as the baseline. In addition to keeping that floor for defining a prohibited biological weapon, a list of agents that are prohibited in certain quantities, no matter the circumstances, should be promulgated either under the BWC or an addition to UNSCR 1540. This list, which would likely be fairly short, should include specific agents for which the international community believes there is no lawful non-offensive purpose, and should identify specific exceptions. For example, smallpox could be prohibited, with specific exceptions identifying which states may possess smallpox, and in what quantities. The list could be updated annually, by a process established by the States Parties to the BWC, by the 1540 Committee or similar body, or by the Security Council. Finally, this intent-based definition should be augmented with an objective definition that distinguishes between an illegal bioweapon and a legal biological agent based on the agent's characteristics, rather than the intent of the actor who possesses it. This augmented definition should be created under a process that can be used and modified as biotechnology advances.

### *B. Lack of Verification Mechanism*

#### 1. The Issue

As discussed above, unlike the nuclear and chemical weapons arenas, there exists no independent verification mechanism in the biological weapons arena. Without a verification mechanism, states and non-state actors alike can act with relative impunity, so long as their activities remain relatively hidden from international scrutiny. The political and practical difficulties of verification in the

bioweapons arena make it unlikely a comprehensive verification scheme will be implemented in the foreseeable future.

Unfortunately, there is little political will among some of the major players—importantly, the United States—for creating a verification mechanism. The United States’ stated basis for opposing a verification mechanism is that it is unlikely to expose illicit activities, a claim with substantial merit given dual use problems and difficulty in locating biological activity without a state’s assistance. However, the likely real primary basis for the United States’ position is the objection of the United States pharmaceutical industry, based on concerns over trade secrets, industrial espionage, and commercial restrictions. Whether these fears are justified, especially in light of the chemical industry’s ability to create a workable verification mechanism under the CWC that allows companies to protect trade secrets, is in large part immaterial, so long as the United States continues to oppose a verification mechanism.

Practical verification difficulties inherent in the area of biological agents also exist. As alluded to elsewhere in this Article, it is difficult to create a verification regime when any nation with a developed pharmaceutical industry has the potential to make biological weapons.<sup>148</sup> Further, because biological agents can be readily multiplied, it is unnecessary to produce or store agents in large quantities.<sup>149</sup> As a result, a biological warfare program does not require large production sites or storage sites.<sup>150</sup>

2. Recommendation: Use UNSCR 1540 Framework to Create Independent U.N. Body for Ad Hoc Verification of States’ Implementation of UNSCR 1540 Mandates

With a routine reporting and verification mechanism politically untenable, recommendations for improvement are modest. Some improvement can be made. The BWC is likely the wrong vehicle; UNSCR 1540 may be the right one.

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<sup>148</sup> Third Review Conference, *supra* note 75.

<sup>149</sup> Oliver Thränert, *Enhancing the Biological Weapons Convention*, in ENHANCING THE BIOLOGICAL WEAPONS CONVENTION 9, 16 (Oliver Thränert ed., 1996).

<sup>150</sup> *Id.*



Given the gaping holes in verification under the BWC, and its non-application to non-state actors, the BWC is clearly not the primary legal agreement for preventing bioterrorism. Even as applied to its original purpose—preventing states from developing, acquiring, and possessing bioweapons—it is largely considered a failure. In the words of one commentator, “[T]he BWC has been relegated to the status of an infirm elderly relative worthy of affection and respect yet not really expected to provide meaningful answers to current challenges.”<sup>151</sup> Its primary role should be, as the United States now advocates, that of a mechanism for refining “cooperation, information exchange, and coordination,” and as “the premier forum for discussion of the full range of biological threats—including bioterrorism—and mutually agreeable steps States can take for risk management.”<sup>152</sup> In other words, the BWC will be a forum for discussion, not an instrument of enforcement. Clearly, the BWC does not, and will not in the foreseeable future, contain a verification mechanism.

UNSCR 1540, though not focused solely on biological weapons, has served to improve legal attention to biological weapons proliferation and preventing bioterrorism. The recent developments in state implementation of UNSCR 1540 discussed above are very encouraging. However, as with the BWC before it, UNSCR 1540’s verification mechanism is weak, relying on state self-reporting to the 1540 Committee. The creation of the 1540 Committee can be viewed as a first step toward a compliance body. To improve verification, the Security Council should give the 1540 Committee additional authority—an idea that might be politically viable given the Security Council’s recent decision to extend the 1540 Committee’s existence for another ten years—or create a new body under the auspices of UNSCR 1540.

In either case, the primary source of “verification” of compliance with UNSCR 1540 would remain states reporting their implementation efforts, but the new compliance body would have broader capability to assess such reports and, when called upon by

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<sup>151</sup> KELLMAN, *supra* note 13, at 193.

<sup>152</sup> Tauser, *supra* note 5.

the Security Council to do so, investigate suspected non-compliance. Such investigations should be conducted by experienced and preexisting teams, rather than ad hoc teams whose experience investigating compliance with the BWC or UNSCR 1540 may be minimal.

Though the practical difficulties of inspecting biological weapons production facilities caused by dual use are imposing, UNSCR 1540 could be improved by creating a body for the physical inspection and monitoring of biological weapons development and enforcement in states where specific concerns are raised and the Security Council believes greater attention is required. Though the nuclear and chemical weapons enforcement bodies are created by treaty, there is no legal need to use a treaty to do so. Chapter VII of the U.N. Charter is sufficient authority for the Security Council to create such a body and imbue it with rights to inspect and gather additional information from without and within states' borders.<sup>153</sup> Additionally, given the lack of enthusiasm for instituting substantive changes to the BWC, and seemingly positive contemporary efforts under UNSCR 1540, utilizing the Security Council may be a more realistic option politically.

Such a body—similar to the International Atomic Energy Agency or the Organization for the Prohibition of Chemical Weapons, though with far less authority—would be able to provide the Security Council what is sorely missing from the current regime: data regarding the presence of biological weapons development, production, and storage programs and facilities in states from an experienced and independent inspection team. This proposed independent body would not have authority to inspect absent specific authorization from the Security Council. Dependence on the Security Council for situation-specific inspection authority in limited instances of concern would allow permanent Security Council member states like the United States to control perceived overreaching. Once given authority, the independent body could conduct physical inspections of biological research, development, and production facilities in a way that no currently constituted

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<sup>153</sup> See generally U.N. Charter, ch. VII.

international body can. Unlike the “challenge inspections” of the CWC, these inspections could not be triggered solely by another state’s allegations. Further, no routine and reoccurring inspections would be conducted.

A multilateral verification body’s physical inspection and monitoring activities could themselves serve as a deterrent, both to states who may support or allow biological weapons development by non-state actors, or to the non-state actors themselves. Perhaps more importantly, such a body’s reports would offer independent and therefore more credible information upon which the Security Council could take action. Evidence from an independent inspection agency, or even a state’s unwillingness to permit such inspections, would surpass the weight of evidence offered by a state that may be a rival of the alleged offending state. At a minimum, if one state were to offer such evidence, an independent body could verify it prior to the Security Council authorizing sanctions or military action against the accused state. If such a standing body existed, the Security Council would have the information necessary to take or to authorize action more quickly and effectively than if a new verification body had to be formed for each new particular situation. Finally, such a body could actually investigate and provide additional data and analysis regarding the *efficacy* of states’ efforts to implement and enforce prohibitions on biological weapons development by non-state actors, rather than simply cataloging such efforts as is currently the case.

### C. *Lack of Enforcement Mechanisms*

#### 1. The Issue

Neither the BWC nor any other international instrument contains a separate enforcement mechanism for violations.<sup>154</sup> Though the power of the Security Council ostensibly backs all Security Council resolutions, in practice, the Security Council has thus far taken no action against non-complying states under UNSCR 1540.

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<sup>154</sup> See BWC, *supra* note 4.

Enforcement against *states* is not the only problem. One understandably wonders whether enforcement serves as a deterrent at all when attempting to prevent *bioterrorism*. This is a problem endemic in attempting to curb all terrorist activity: enforcement based on punishment does not work for groups willing to engage in suicidal terrorist attacks. The main system of enforcement in anti-terrorism treaties is to criminalize terrorist acts with strong penalties and to ensure that offenders are punished. But the idea behind this system is the *ex post facto* punishment of terrorists, and not the prevention of terrorism. Though the existence of a heavy penalty has a deterrent and preventive effect, just how much it deters an attacker who may be willing to commit suicide is open to question. This problematic aspect of anti-terrorism conventions is shared by the WMD treaties that provide national implementation obligations, including enacting penal legislation.<sup>155</sup>

## 2. Recommendation: Stop Seeking a Separate Enforcement Mechanism

A separate enforcement mechanism is unnecessary. Under the modest verification system offered above, the Security Council would be provided with independent and sufficient information to know whether states were violating their obligations under the BWC, UNSCR 1540, or other international obligations. Practically speaking, no alternative enforcement mechanism is necessary or would provide greater incentive to comply with legal obligations. Ostensibly, even if an alternative system were established, meaningful action against a non-complying state would likely involve the Security Council. Other than possible extra-U.N. unilateral action by a state (meaning an alternative enforcement mechanism would also be bypassed), no military action would be taken absent Security Council sanction. As a potential deterrent, the possible enforcement options at the Security Council's disposal could be identified in the instrument establishing the permanent 1540 Committee-like body described above, so long as the instrument was clear that Security Council approval would be required for any enforcement action. Criminalization of terrorist biological activities

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<sup>155</sup> Asada, *supra* note 56, at 312-13.

is important, but too strong a focus on enforcement in the terrorism context is likely counterproductive. Enforcement against *states* and their leaders might work to minimize terrorists' chances for obtaining and developing weapons, but a separate enforcement mechanism—beyond the threat of Security Council action—is unlikely to provide any additional incentive for state compliance.

#### *D. States Lacking Capacity*

##### 1. The Issue

As long as the international regime governing the development and production of biological weapons relies solely on individual states for controlling bioweapons development and use, the world population remains at risk for biological weapons attacks. It is relatively easy to identify states that might themselves develop or use biological weapons in contravention of international law or actively support or permit such activities by non-state actors within their jurisdiction. However, a critical void in limiting the biological weapons threat is the additional likelihood that such weapons could be produced or stored in states that do not prevent such activities due simply to the *lack of capacity or information to do so*. Though several lists identifying implementing legislation have been created, at this point governing bodies do not even have the data to reach conclusions regarding the *effectiveness* of such efforts.<sup>156</sup> Further, UNSCR 1540 acts as an unfunded mandate—requiring implementation without providing resources to accomplish the implementation. Many developing or bankrupt nations—the same nations where bioterrorist activities are likely to proliferate—simply will not be able to comply, absent assistance.

##### 2. Recommendation: An International Assistance Fund

It is in the international community's interest to ensure states implement required controls mandated by UNSCR 1540, whether those states have the internal capacity to do so. As discussed

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<sup>156</sup> Convention on the Suppression of Unlawful Acts Relating to International Civil Action, Sep. 10, 2010, DCAS Doc No. 21, *available at* [https://www.unodc.org/tldb/en/2010\\_convention\\_civil\\_aviation.html](https://www.unodc.org/tldb/en/2010_convention_civil_aviation.html).

above, modest information sharing among countries already exists, facilitated by the 1540 Committee. While this work is extraordinary and effective, the more difficult hurdle is financial assistance for states simply lacking the ability to implement and enforce effective controls. This is a need the international community must fill collectively, rather than on the sporadic basis now experienced through the 1540 Committee's matchmaking service.<sup>157</sup> Because the need will surely exceed the supply, it is essential to establish a mechanism for prioritizing such international assistance. The 1540 Committee or similar verification body recommended above should be tasked with identifying for the UN the states most needing assistance and ensuring that assistance is used as intended for the prevention of bioterrorism.<sup>158</sup>

### III. CONCLUSION

As it relates to preventing bioterrorism, the normative framework of the international legal regime preventing use of biological weapons is barely adequate as a statement of what is prohibited. The Biological Weapons Convention is largely not useful in the fight to prevent bioterrorism. However, the BWC, combined with the far more useful UNSCR 1540 and other anti-terrorism measures, sufficiently proscribes the development, production, acquisition, possession, and use of biological weapons by states and non-state actors. To this extent, the current legal regime is mostly successful as a normative statement of what is prohibited.

However, in an era of ever-expanding biological research and understanding, the problem of bioterrorism is growing rather than shrinking. Without a workable definition of what states and

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<sup>157</sup> In its most recent report, the 1540 Committee reported only four requests for financial assistance from other states. Third Report of the 1540 Committee, *supra* note 128, para. 112. Clearly, there are more states in need of assistance. Knowing that most solicitations for financial assistance go unfulfilled probably keeps needy states from requesting funds in the first place.

<sup>158</sup> Importantly, nothing in this recommendation would preclude additional unilateral or multilateral assistance to needy countries, as such efforts are critically important. "Cooperative efforts to rectify deficiencies are more appropriate in ensuring national implementation, especially when non-compliance may realistically be due to lack of awareness or capacity." Woodward, *supra* note 65, at 106.

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individual actors are prohibited from doing, the norms lose value and actors are encouraged to exploit the “gray areas,” justifiably expecting enforcement will not occur there. Further, the practical application of existing norms, especially in the area of verification, is woefully lacking. Some type of regular verification ability is required for the global community to have any confidence that illegal bioweapons development is not occurring. Finally, in many of the most dangerous instances, non-compliance with international norms may be due not to a desire to flout norms for the benefit of terrorists, but to states’ lack of capacity to enforce effective national implementation of the international norms.

The international legal regime discussed in this Article cannot and will not prevent bioterrorism alone. Fortunately, the international legal regime is only one element of the world’s effort. Political and practical realities dictate that the effort must also involve other methods, including response-focused activities, non-binding partnerships, non-state industrial and academic self-regulation and cooperation, and a focus on bioterrorism response. Though this article focuses only on the international law affecting the prevention of bioterrorism, the law alone, as in every area of human experience, is insufficient.

