

The Biological and Toxin Weapons Convention

Oct 3, 2011

N. Connell

Previous uses of biological agents in warfare

- Pre-Geneva Convention:
 - Tatars
 - Lord Jeffrey Amherst
 - WWI
- Post-Geneva Convention
 - WWII offensive programs
 - Domestic/terrorism

International actions to limit or prevent biological weapons before WWI

- **1899 and 1907 Hague Conventions**
- **Geneva Protocol, 1925: “no first-use”**

Hague Convention of 1899

- 1. To prohibit the launching of projectiles and explosives from balloons or by other similar new methods.
- 2. To prohibit the use of projectiles, the only object of which is the diffusion of asphyxiating or deleterious gases.
- 3. To prohibit the use of bullets which expand or flatten easily in the human body, such as bullets with a hard envelope, of which the envelope does not entirely cover the core or is pierced with incisions.

Hague convention of 1907

- * I — The Pacific Settlement of International Disputes
- * II — The Limitation of Employment of Force for Recovery of Contract Debts
- * III — The Opening of Hostilities
- * IV — The Laws and Customs of War on Land
- * V — The Rights and Duties of Neutral Powers and Persons in Case of War on Land
- * VI — The Status of Enemy Merchant Ships at the Outbreak of Hostilities
- * VII — The Conversion of Merchant Ships into War-Ships
- * VIII — The Laying of Automatic Submarine Contact Mines
- * IX — Bombardment by Naval Forces in Time of War
- * X — Adaptation to Maritime War of the Principles of the Geneva Convention
- * XI — Certain Restrictions with Regard to the Exercise of the Right of Capture in Naval War
- * XII — The Creation of an International Prize Court [Not Ratified][2]
- * XIII - The Rights and Duties of Neutral Powers in Naval War

Geneva protocol to the Hague convention 1925

- Prohibits the use of all forms* of chemical and biological warfare. The protocol grew out of the horrific experiences of World War I following the use of mustard gas and similar agents. It was feared that chemical and biological warfare could lead to horrific consequences in any future war.
- *asphyxiating gas, or any other kind of gas, liquids, substances or similar materials

Estimated Casualties From Gas during WWI

Country	Total Casualties	Death
Austria-Hungary	100,000	3,000
British Empire	188,706	8,109
France	190,000	8,000
Germany	200,000	9,000
Italy	60,000	4,627
Russia	419,340	56,000
USA	72,807	1,462
Others	10,000	1,000

Source: ICRC

Geneva Conventions

- First Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, 1864
- Second Geneva Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea, 1906
- Third Geneva Convention relative to the Treatment of Prisoners of War, 1929
- Fourth Geneva Convention relative to the Protection of Civilian Persons in Time of War, 1949

Programs during World War II

- Mass-produced, battle-ready biological weapons in the form of agents that cause: anthrax, tularemia, brucellosis, Q-fever, VEE, botulism, and SEB
- Attempted weaponization: smallpox, EEE and WEE, AHF, Hantavirus, BHF, Lassa fever, glanders, melioidosis, plague, yellow fever, psittacosis, typhus, dengue fever, Rift Valley fever (RVF), CHIKV, late blight of potato, rinderpest, Newcastle disease, bird flu, and the toxin ricin.

Source: Croddy, Eric C. and Hart, C. Perez-Armendariz J.2002.

U.S. Program: Testing BW agents on unsuspecting populations

- **San Francisco, 1950**
 - *Bacillus globigii* and *Serratia marcescens*
- **Minneapolis and St. Louis 1952-1953:**
 - zinc cadmium sulfide
- **NYC subway system, 1966:**
 - *Bacillus subtilis*
 - Clouds of Secrecy: The Army's Germ Warfare Tests over Populated Areas, by L. A. Cole

U.S. renounces BW program

- Nixon ordered review of entire BW program
- concluded that BW were tactically inadequate:
 - latency between exposure and onset
 - difficulty in confining effects to target area
 - increasing antiwar sentiment
- November 1969: unconditional, unilateral renouncement of biological weapons
- February 1970: extended to include toxin agents

Article I of the Biological Weapons Convention

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

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

(2) Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.

The Articles

i.

ii.

iii.

iv.

v.

vi.

vii.

viii.

ix.

x.

viii. $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$
 $\frac{1}{6} \times \frac{1}{4} = \frac{1}{24}$
 $\frac{1}{24} \times \frac{1}{5} = \frac{1}{120}$
 $\frac{1}{120} \times \frac{1}{6} = \frac{1}{720}$

ix. $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

x. $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

xi. $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

xii. $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$
 $\frac{1}{6} \times \frac{1}{4} = \frac{1}{24}$
 $\frac{1}{24} \times \frac{1}{5} = \frac{1}{120}$
 $\frac{1}{120} \times \frac{1}{6} = \frac{1}{720}$

xiii. $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

The Biological Weapons Convention

- 1972: opened for signatures
- 1975: entry into force
- Number of states parties:
 - in 1975 : 33 original signers
 - in 2010: 163 signatories
 - 18 non-signatories

Country	Signature	Ratification/Accession
Afghanistan	4/10/72	3/26/75
Albania	-	6/3/92
Algeria	-	7/22/01
Antigua & Barbuda	-	1/29/03
Argentina	8/1/72	11/27/79
Armenia	-	6/7/94
Australia	4/10/72	10/5/77
Austria	4/10/72	8/10/73
Azerbaijan	-	2/26/04
Bahamas	-	11/26/86
Bahrain	-	10/28/88
Bangladesh	-	3/11/85
Barbados	2/16/73	2/16/73
Belarus	4/10/72	3/26/75
Belgium	4/10/72	3/15/79
Belize [1]	-	10/20/86
Benin	4/10/72	4/25/75
Bhutan	-	6/8/78
Bolivia	4/10/72	4/25/75
Bosnia and Herzegovina [2]	-	8/15/94
Botswana	4/10/72	2/5/92
Brazil	4/10/72	2/27/73
Brunei Darussalem	-	1/31/91
Bulgaria	4/10/72	8/2/72
Burkina Faso	-	4/17/91
Burundi	04/10/72	-
Cambodia	4/10/72	3/9/83
Canada	4/10/72	9/18/72
Cape Verde	-	10/20/77
Central African Republic	4/10/72	-
Chile	4/10/72	4/22/80
China	-	11/15/84
Colombia	4/10/72	12/19/83
Congo	-	10/23/78
Cook Islands	-	12/4/08
Costa Rica	4/10/72	12/17/73
Côte d'Ivoire	5/23/72	-
Croatia [2]	-	4/28/93
Cuba	4/10/72	4/21/76
Cyprus	4/10/72	11/6/73
Czech Republic [3]	-	4/5/93
Democratic Republic of Congo [4]	4/10/72	9/16/75
Denmark	4/10/72	3/1/73
Dominica	-	11/8/78
Dominican Republic	4/10/72	2/23/73
Ecuador	6/14/72	3/21/73
Egypt	4/10/72	-
El Salvador	4/10/72	12/31/91
Equatorial Guinea	-	1/16/89
Estonia	-	6/21/93
Ethiopia	4/10/72	5/26/75
Fiji	2/22/73	9/4/73
Finland	4/10/72	2/4/74
France	-	9/27/84

<http://www.armscontrol.org/factsheets/cwcsig> August 2010

Gabon	4/10/72	8/16/07	Macedonia [2]	-	12/24/96
Gambia	6/2/72	11/21/91	Madagascar	10/13/72	3/7/08
Georgia	-	5/23/96	Malawi	4/10/72	-
Germany [5]	4/10/72	11/28/72	Malaysia	4/10/72	9/6/91
Ghana	4/10/72	6/6/75	Maldives	-	8/2/93
Greece	4/10/72	12/10/75	Mali	4/10/72	11/25/02
Grenada	-	10/22/86	Malta	9/11/72	4/7/75
Guatemala	5/9/72	9/19/73	Mauritius	4/10/72	8/7/72
Guinea-Bissau	-	8/20/76	Mexico	4/10/72	4/8/74
Guyana	1/3/73	-	Monaco	-	4/30/99
Haiti	4/10/72	-	Mongolia	4/10/72	9/5/72
Holy See	1/4/02	1/4/02	Montenegro [6]	4/10/72	6/3/06
Honduras	4/10/72	3/14/79	Morocco	5/2/72	3/21/02
Hungary	4/10/72	12/27/72	Myanmar	4/10/72	-
Iceland	4/10/72	2/15/73	Nepal	4/10/72	-
India	1/15/73	7/15/74	Netherlands	4/10/72	6/22/81
Indonesia	6/20/72	2/19/92	New Zealand	4/10/72	12/13/72
Iran	4/10/72	8/22/73	Nicaragua	4/10/72	7/8/75
Iraq	5/11/72	6/19/91	Niger	4/21/72	6/23/72
Ireland	4/10/72	10/27/72	Nigeria	7/3/72	7/3/73
Italy	4/10/72	5/30/75	Norway	4/10/72	8/1/73
Jamaica	-	8/13/75	Oman	-	3/31/92
Japan	4/10/72	6/8/82	Pakistan	4/10/72	9/25/74
Jordan	4/10/72	5/30/75	Palau	-	2/20/03
Kazakhstan	-	6/15/07	Panama	5/2/72	3/20/74
Kenya	-	11/7/76	Papua New Guinea	-	10/27/80
Kuwait	4/14/72	7/18/72	Paraguay	-	6/9/76
			Peru	4/10/72	6/5/85
			Philippines	4/10/72	5/21/73
			Poland	4/10/72	1/25/73
			Portugal	6/29/72	5/15/75

<http://www.armscontrol.org/factsheets/cwcsig> August 2010

Romania	4/10/72	7/25/79
Russia [7]	4/10/72	3/26/75
Rwanda	4/10/72	5/20/75
St. Kitts & Nevis	-	4/2/91
St. Lucia [8]	-	11/26/86
St. Vincent & the Grenadines [8]	-	4/2/91
San Marino	9/12/72	3/11/75
Sao Tome and Principe	-	8/24/79
Saudi Arabia	4/10/72	6/24/72
Senegal	4/10/72	3/26/75
Serbia [2] [6]	4/10/72	10/25/73
Seychelles	-	10/11/79
Sierra Leone	11/7/72	6/29/76
Singapore	6/19/72	12/2/75
Slovakia [3]	-	5/17/93
Slovenia [2]	-	4/7/92
Solomon Islands [8]	-	6/17/81
Somalia	7/3/72	-
South Africa	4/10/72	11/3/75
South Korea	4/10/72	6/25/87
Spain	4/10/72	6/20/79
Sri Lanka	4/10/72	11/18/86
Sudan	-	10/17/03
Suriname	-	1/6/93
Swaziland	-	6/18/91
Sweden	2/27/75	2/5/76
Switzerland	4/10/72	5/4/76
Syria	4/14/72	-

Tajikistan	-	6/27/05
Tanzania	8/16/72	-
Thailand	1/17/73	5/28/75
Timor Leste	-	5/5/03
Togo	4/10/72	11/10/76
Tonga	-	9/28/76
Trinidad & Tobago	-	7/19/07
Tunisia	4/10/72	5/18/73
Turkey	4/10/72	10/25/74
Turkmenistan	-	1/11/96
Uganda	-	5/12/92
Ukraine	4/10/72	3/26/75
United Arab Emirates	9/28/72	6/19/08
United Kingdom	4/10/72	3/26/75
United States	4/10/72	3/26/75
Uruguay	-	4/6/81
Uzbekistan	-	1/11/96
Vanuatu	-	10/12/90
Venezuela	4/10/72	10/18/78
Vietnam	-	6/20/80
Yemen [9]	4/26/72	6/1/79
Zambia	-	1/15/08
Zimbabwe	-	11/5/90

<http://www.armscontrol.org/factsheets/cwcsig> August 2010

Non-Signatory States

- Andorra
- Angola
- Cameroon
- Chad
- Comoros
- Djibouti
- Eritrea
- Guinea
- Israel
- Kiribati
- Marshall Islands
- Mauritania
- Micronesia
- Namibia
- Nauru
- Niue
- Samoa
- Tuvalu

<http://www.armscontrol.org/factsheets/bwcsig> August 2010

Countries suspected of harboring BW

- Russia
- US
- UK
- Iraq
- China
- Taiwan
- Iran
- Syria
- North Korea

Women's Int'l League for Peace and Freedom, 2008

What to do when states parties cheat??

- The BWC needs a legally binding verification protocol
- Review Conferences every 5 yrs
- Ad hoc group (“Verex”) worked for almost a decade

Basic terms of the legally binding protocol (2001)

- *mandatory declarations* of facilities and activities that could be diverted most easily to develop or produce biological weapons;
- *consultation procedures* to clarify questions that might arise from declarations, including the possibility of on-site visits;
- *randomly selected transparency* visits to check the accuracy of declarations; and
- *challenge investigations* to pursue allegations that a country is developing, producing, or employing biological weapons.

US Counterproposals

- criminalizing the acquisition and possession of biological weapons;
- restricting access to dangerous microbial pathogens and toxins;
- supporting the WHO's global system for disease surveillance and control;
- establishing an ethical code of conduct for scientists working with dangerous pathogens;
- contributing to an international team that would provide assistance in fighting outbreaks of infectious disease; and
- strengthening an existing UN mechanism for conducting field investigations of alleged biological weapons use so that BWC member states would be required to accept investigations on their territory.

August 2001

- “ad hoc group” presents legally binding protocol to the state parties
- US (John Bolton) walks out
 - “dead, and is not going to be resurrected,”

RevCon 5 -2001

- With no protocol in place, negotiators concentrated on identifying “other mechanisms” for strengthening the BWC

RevCon 6 in 2006; planning for 2007

- - Ways and means to enhance national implementation, including enforcement of national legislation, strengthening of national institutions and coordination among national law enforcement institutions.
- - Regional and sub-regional cooperation on BWC implementation.

August 2010 topic:

Assistance and coordination between convention member states and international professional organizations in the *event of the alleged use of biological weapons*.

Freeman 9/16/0

Response on two tracks

- 1) investigative, that is, discovering who carried out the attack
- 2) handling the consequences
- Both require varied professional capabilities of the state, as well as cooperation with other states and with international organizations such as the World Health Organization.

Freeman 9/16/0

- The developed (Western) countries generally have good capabilities of detecting, identifying, diagnosing, monitoring, tracking, and treating biological diseases and causes of disease.
- The capabilities required for managing natural infectious diseases and diseases intentionally caused are highly similar.

Freeman 9/16/0

Contentious issue:

- coping with the causes of disease and epidemics and related inter-state cooperation - counters the convention's original mandate as a security mission, i.e. to be a mechanism for supervision and control of the ban on developing, stockpiling, and using biological weapons.

Freeman 9/16/0

Additional issues for 2010

- requiring governments to institute higher education programs for raising awareness on the convention and its ramifications
- the risks inherent in the advanced fields of biological research
- procedural change, whereby an annual conference will be held that can make binding decisions.

Freeman 9/16/0

Preparation for RevCon 7 - 2011

- State legislation prompted by the convention
- Bio-safety and bio-security to prevent biological terrorism
- Epidemiological monitoring and reviews of causes of diseases
- Codes of conduct for scientists and professional organizations in the life sciences
- Investigation of and response to alleged use of biological weapons

December 2009: US administration in disarray

- [W]e must have a **mechanism to review whether we are keeping our commitments**, and exchange this information in a transparent manner. These measures need not be intrusive, or infringe on sovereignty. This must, however, ensure that an accord is credible, and that we are living up to our obligations. Without such accountability, any agreement would be empty words on a page. *I don't know how you have an international agreement where all are not sharing information and ensuring that we are meeting our commitments.* That doesn't make sense. It would be a hollow victory.
 - President Obama, Copenhagen, Dec 2009
- 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**. It is extraordinarily difficult to verify compliance.
 - Ellen Tauscher, U.S. Undersecretary for Arms Control and International Security in Geneva at the meeting of States Parties to the BWC, Dec 2009

From Dando, Bull At Sc Jan 25, 2010

Existing deficiencies

- Implementing body
- Verification protocol
- Inability to investigate allegations
- Universality
- Industry support

Major achievements

- First international legal agreement that outlawed an entire class of weapons
- Int'l community views BW as morally repugnant, unacceptable
- Int'l condemnation of any country that engages in bioweaponing
- Provides forum for ongoing and continuous engagement

Alternate strategies (in absence of verification protocol)

- Educating scientists (Dando)
- Mandatory reports on confidence-building measures to improve transparency (US and Aus) (Dando)
- Acknowledge convergence of BWC and CWC by instituting closer ties (Tucker)
- Model inspection protocol on FDA methodology (Mereish)

Meriesh:

- 1. expand technical component of meetings
- 2. internet: public sharing of biosafety and biosecurity (only US and Australia)
- 3. WHO, World Org for Animal Health, UN Food and Ag – strengthen and expand
- 4. communication between scientists/labs; academic exchanges
- 5. FDA-modeled inspections