



Biological Weapons

Their threat, their control and the need for stakeholder involvement

Jean Pascal Zanders

Political Affairs Officer

United Nations Office for Disarmament Affairs (UNODA), Geneva

Regional Workshop for the Pacific Region Universalisation of the BWC

Nadi, Fiji, 27-28 July 2017



What is biological warfare?

Intentional application against *humans*, *animals* or *plants* for hostile purposes of

- *Disease-causing micro-organisms* (e.g., bacteria);
- *Other entities that can replicate themselves* (e.g., viruses, infectious nucleic acids and prions)
- *Toxins*, poisonous substances produced by living organisms (and their synthetically manufactured counterparts), including
 - micro-organisms (e.g., botulinum toxin),
 - plants (e.g., ricin derived from castor beans), and
 - animals (e.g., snake venom)



Main prohibitions against BW

- 1925 Geneva Protocol
 - Prohibits the use in armed conflict of chemical and biological weapons (CBW)
- 1972 Biological and Toxin Weapons Convention (BWC)
 - Comprehensive ban on development, production and possession of biological weapons (BW) and toxins
 - Ban on BW use in Geneva Protocol + Final Declaration of 4th Review Conference (1996)
- 1993 Chemical Weapons Convention (CWC)
 - Comprehensive ban on development, production, possession, and use of chemical weapons (CW)
 - The definition of chemical weapon also includes toxins
 - Links up with the BWC



The BW threat spectrum

- War scenarios
- Terrorism
- Criminal acts

- Each will consider and have the availability of different biological or toxin agents, with different degrees of pathogenicity or toxicity
 - Depends on *intent*
 - Depends on *availability*
 - Depends on *technical skills* and *structure* of the organisation



Alternative uses of biological agents

- Against humans
 - Potential for mass casualties exists, but not necessarily most likely scenario as agents difficult to acquire
 - Incapacitation
 - Wider range of agents available
 - Easier to collect from nature and cultivate
 - Delivery uncomplicated
 - Lower requirements for skills and functional specialisation
- Against animals and plants
 - Economic impact
 - Agents easier to acquire; less of a risk to perpetrator
 - Easy to deploy
 - Many vulnerabilities in the food chain
- Economic and societal disruption
 - Goal is to disrupt functioning of utilities, commercial enterprises, public agencies
 - Wider range of biological agents available
 - Exploitation of fear and lack of adequate preparations
 - Effectiveness of hoaxes



Disease and warfare

- Before the 20th century, more people died from disease in war than from combat operations
 - Poor sanitary conditions; low quality nourishment
 - Poor knowledge of disease propagation
 - Limited forms of disease treatment; key types of medication not discovered until well into the 20th century
- Exploration and confrontation of cultures
 - Peoples living in isolation from Eurasian cultures were suddenly confronted with diseases they had never encountered before, e.g.
 - Indian civilisations of Central and South America following the Spanish conquests
 - Populations on Pacific Islands: for instance, *lilabalavu* in Fiji following the wrecking of the US schooner *Argo* in 1800. The series of epidemic outbreaks that followed reduced the Fijian population from about 210,000 to 85,000 in 1921.



Deliberate disease

- Rare before knowledge of disease propagation
 - Some acts definitely contributed to epidemics, but may not have been intended to spread disease
 - Exploitation of prevailing conception of disease, but would not be considered biological warfare today
- Early intent
 - (Alleged) distribution of blankets infected with smallpox virus among American Indian tribes in the Great Lakes area (1763)
 - New Hebrides (Vanuatu):
 - 19th century: Freebooters would capture a native until he/she caught measles or whooping cough and then reintroduce them into their villages, leading to mass die-offs of natives.
 - Apparently an act of reprisal for refusal to subjugate to colonials or pirates
- Modern biological warfare
 - Acts of sabotage in World War 1
 - Major preparations during 1930s and World War 2
 - Japanese use and experiments during World War 2
 - Major BW programmes during the Cold War



Perspectives on the BW threat

- Use of biological and toxin weapons has so far been extremely rare
 - Since 1975, > 100 persons have been killed through deliberate disease
 - Most cases involved toxins
 - Most cases were criminal in nature
 - Major terrorist BTW programmes have been total failures (Rajneesh Cult; Aum Shinrikyo)
 - However, anthrax letters (USA, 2001) demonstrate the potential for low-casualty — high-impact events
 - Most bioterror events do not involve actual agents (hoaxes)
- We have arrived in a post-proliferation stage
 - Biotechnology (equipment, processes, products, knowledge) has become universal
 - Developing countries (Cuba, India, Indonesia, Iran, Malaysia, Pakistan, etc.) have become original sources of innovation and, in some cases, technology exports



Nature poses the greatest challenge

- **Infectious diseases are responsible for**
 - > 13 million deaths annually (\approx number of fatalities in the Twin Towers attacks on 9/11 every two hours)
 - $\frac{1}{4}$ of all deaths worldwide
 - $\frac{1}{2}$ of all deaths in developing countries
- **1918: Spanish Flu** caused more fatalities worldwide than World War 1
- **Emerging diseases:** SARS; West Nile Virus; Avian flu (H5N1 and H7N9), Zika
- **AIDS in Africa:** threat to social fabric of societies
- **Ebola in West Africa**
 - Pointed to shortcomings in international assistance
 - Impacted on consideration of implementation of BWC Article VII
- **Economic impact of non-human disease outbreaks:**
 - Swine Fever outbreaks in Taiwan (1994 – 2001)
 - Foot and Mouth Disease outbreak in the UK (2001)



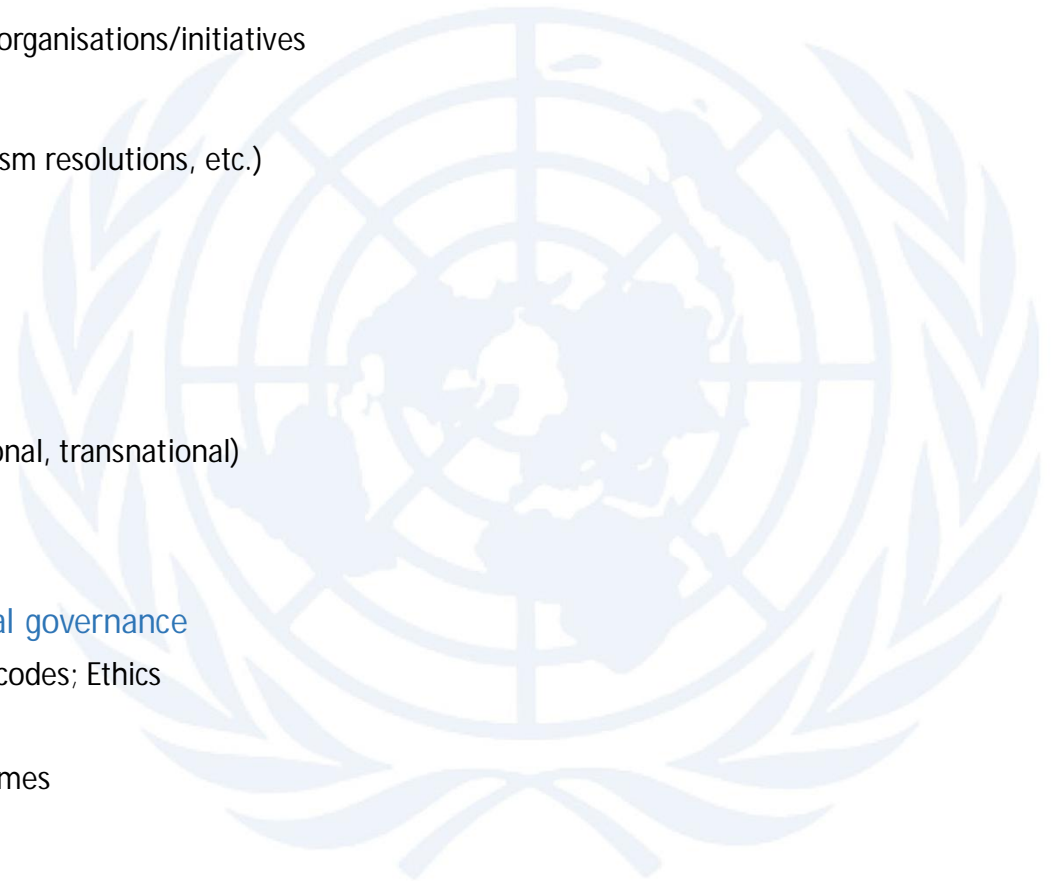
Preventing biological weapons

- Logical point of entry: weapons and their application
 - However, treaties only govern inter-state behaviour
 - Biological warfare (states) / terrorism / crime
 - need for domestic (criminal, penal) legislation
 - *Prevention* of terrorism:
 - also responsibility of the individual
- Possible additional points of entry
 - Prevention of disease (irrespective of origin of outbreak)
 - Preserving biology and biotechnology for peaceful purposes (societal advancement, economic development, health security, food security, etc.)
 - Environmental security (impact of accidental or purposeful introduction of organisms in new biotopes or of modified organisms)



Towards a multi-layered & multi-sectorial governance model?

- **Weapon control**
 - Multilateral agreements (Geneva protocol, BTWC, CWC)
 - Proliferation prevention arrangements (Australia Group, PSI, Global Partnership, etc.)
 - UN agencies: UNSC, UNODA, 1540 Committee, UNEP, UNDA, etc.
 - National laws and regulations (criminal, penal, trade, safety, etc.)
- **Disease prevention**
 - WHO, FAO, OIE + their regional organisations/initiatives
- **Crime and terrorism**
 - UNSC Resolutions (1540, terrorism resolutions, etc.)
 - Interpol, Europol, etc.
- **International transfers**
 - WTO, WCO, etc.
- **Economic actors**
 - Companies (national, multinational, transnational)
 - Research institutions
 - Individuals
- **Instruments of collective & individual governance**
 - Codes of conduct; Professional codes; Ethics
 - Awareness-raising & education
 - Whistle-blower protection schemes





Contact

Jean Pascal Zanders

Political Affairs Officer

European Union Council Decision in support of the
Biological Weapons Convention

UN Office for Disarmament Affairs (Geneva Branch)

Room C.1-1, Palais des Nations, CH-1211 Geneva 10

Tel: +41 (0)22 917 4460

Mob: +41 (0)76 691 0585

Fax: +41 (0) 22 917 04 83

jzanders@unog.ch

