Biological & Toxin Weapons Convention

*The treaty and assistance in case of BW use*

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*The Trench*

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Part 1

DISEASE: DELIBERATE & CIVILISATIONAL CHALLENGE
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)
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 than from combat operations in war**
  - 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**
  - Early civilisational expansion (from about 8,000 BCE)
    - Repeated colonisation waves into the Pacific Islands by southeast Asian populations
    - Expansion of early societies in Antiquity
    - Trade routes ranged from east Asia to west Europe on Eurasian continent
  - 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 came with understanding that disease invades the body**
  - (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 (≈ number of fatalities in the Twin Towers attacks on 9/11 every two hours)
  - ¼ of all deaths worldwide
  - ½ 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 BTWC Article VII on emergency assistance
- **Economic impact of non-human disease outbreaks**:
  - Swine Fever outbreaks in Taiwan (1994 – 2001)
  - Foot and Mouth Disease outbreak in the UK (2001)
Modern biological weapons and warfare: Confluence of several trends

- **The first wave: The scientific understanding of disease**
  - Three critical characteristics of disease uncovered in 19th century:
    - Infectious disease is caused by an agent (pathogen)
    - The agent can be transmitted from one living organism to another (infectiveness)
    - One agent is responsible for one disease only
  - Manipulation of the pathogen
    - Isolation
    - Cultivation (while maintaining its infectiveness)
    - Production in large quantities
    - Effective dissemination

- **The new industrial revolution**
  - Biotechnology & informatics are the driving force
  - Major impact on all aspects of life in developed and developing countries
  - Biotechnology has accelerated development of societies (emerging economies)
  - Convergence with other scientific disciplines (e.g., chemistry, informatics, etc.)

- **Military application of new scientific and technological developments has become commonplace (= exploitation of ‘dual-use’ potential)**
  - Pressures to exploit new biology and biotechnology for military goals will grow
  - Many arguments in favour framed in humanitarian discourse (e.g., so-called non-lethal weaponry \(\rightarrow\) convergence with chemistry for incapacitating agents)
Potential for future weapon development

- Biology and biotechnology allow for the manipulation of disease on the sub-cellular level (genes, biochemical processes, etc.)
  - May make the effects of biological agents more controllable
  - May produce agents with higher infectivity or ability to overcome medical defences

- Interference with the natural immune system rather than dissemination of pathogen may become new mode of attack

- Improvements in analytical and production processes:
  - Higher quality & higher quantities in smaller units
  - Technologies become common place (classroom equipment; bio-hacker laboratories)
  - DNA data exist as digital information on computers and in databases
  - Additive manufacturing (3D-printing) to construct synthetic tissue (incl. pathogens)

- Possible application of synthetic biology and nanotechnology in agent design or dissemination technology, as well as in defence, protection and prophylaxis

- May contribute to novel ways of agent dissemination
  - Aerosol techniques
  - Targeting of specific genes
Part 2

THE NORM AGAINST BIOLOGICAL WEAPONS
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 (BTWC)**
  - Comprehensive ban on development, production and possession of biological weapons (BW) and toxins

- **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 BTWC
The BTWC as keeper of the norm

• **Strong norm**
  - Today, no state admits to BW programme & holdings
  - Quasi universality:
    - 183 States Parties → 3rd most successful weapon control treaty in force after CWC and NPT
    - Role in customary international law
  - States Parties committed to BTWC:
    - Assessment of the state of the norm + updating at RevCons
    - Annual activities since 3rd RevCon (1991)

• **Intrinsically weak**
  - No formal verification & compliance enforcement mechanisms
    - No international institution for implementation oversight and enforcement
    - Implementation Support Unit (ISU) supportive of State Party activity, but no functional substitute for international organisation
    - Inability to incorporate verification tools into BTWC
  - Slow process to deal with new challenges (scientific & technological developments; new actors)
  - On-going frustration over unmet expectations in areas of security or development
Part 3

ASSISTANCE IN CASE OF A VIOLATION OF THE BTWC
Article VII

Each State Party to this Convention undertakes to provide or support assistance, in accordance with the United Nations Charter, to any Party to the Convention which so requests, if the Security Council decides that such Party has been exposed to danger as a result of violation of the Convention.
Possible phases in an Ebola-like crisis

1. Pre-outbreak phase
   - Start outbreak

2. Building resilience
   - Assessment of outbreak + consideration of emergency assistance request
   - Art VII

3. Internationally coordinated emergency assistance
   - UNSC decides

4. Final outbreak response
   - Internationally coordinated assistance may be terminated before outbreak is over
   - Opportunity for States Parties to re-enter process?

5. Societal reconstruction
   - Opportunity for States Parties to re-enter process?
Interpreting Article VII

- **Assistance**
  - Generally understood to mean humanitarian aid
  - However, explicit reservations by Austria and Switzerland to Article VII in view of their status of permanent neutrality ⇒ how explicit was the reference to humanitarian aid in 1971?

- **UN Charter**
  - Includes Chapter VII (which contains Article 51)

- **If the Security Council decides**
  - What happens if there is no decision?
  - Situation of armed conflict ⇒ may be highly politicised

- **Violation of the Convention**
  - Any provision of the BTWC, or is reference to *BW use* implicit?
  - Does Article VII only cover acts by States Parties?
  - Quid non-Parties; Terrorists?
RevCons: Additional agreements

• Assistance
  • Can be promptly provided by States Parties, pending UNSC decision (3rd RevCon, 1991)
  • Interpretation 4th RevCon (1996): prohibition in Article I covers BW use
    • Again explicit reference to BW use
    • Reference to ‘anyone other than a State Party’ (thus includes terrorists)
  • UN and specialised organisations can play role in assistance (3rd RevCon, 1991)

• Specification of nature of assistance (humanitarian)
  • 7th RevCon (2011): expertise, information, protection, detection, decontamination, prophylactic and medical and other equipment

• National preparedness contributes to international response capacity
  • 6th RevCon (2006): response, investigation and mitigation of disease outbreaks, including alleged BW use

• Emphasis on the responsibility and role of individual State Party
  • For providing assistance
  • For coordination with international organisations
  • Own preparedness to meet health threats
Comments on decision-making chart – 1

- Chart built on assumption of major disease outbreak potentially causing a humanitarian crisis
  - The outbreak is unusual with deliberate intent suspected
  - There is no established procedure for dealing with an Article VII request
    - The UNSG Investigative Mechanism is not a formal part of the BTWC regime
      - However, RevCon final documents have referred to it
      - Some States Parties have listed their material support for the Investigative Mechanism as contributing to Article VII (Repurposing of contributions)
      - Based on the Syria experience and concerns of false allegations (e.g., by the accused state) a request for an investigation may accompany or follow the Article VII invocation
      - The ‘accused’ State Party may request the UNSG Investigative Mechanism to exonerate itself
    - BTWC ISU not formally designated as recipient of any form of complaint, nor do 3 Depository States have any formal function in BTWC management
    - Would a State Party consider invoking Article V before deciding on Article VII (bearing the potential urgency of the crisis in mind)?
      - In that case, are there (reserve) funds available to convene such a meeting (in view of current contribution crisis)?
      - A State Party can always appeal directly to the UNSC or WHO, etc. (+ BTWC Article VI)

- Multiple scenarios possible
  - Elements to the left of the chart will be less evident in case of a threat (‘danger’) rather than of an actual incident
Comments on decision-making chart – 2

• **Consideration has to be given to the *internal* decision-making process of a State Party thinking of invoking Article VII**
  • Which factors may contribute to invoking Article VII?
  • Which factors may mitigate against an Article VII request?
    • Domestic
    • International
    • Situation-specific

• **Are there other cost-benefit factors to be considered?**
  • Relative to other procedures foreseen under the BTWC
  • Relative submitting the concern directly to the UNSC
  • Relative to seeking assistance directly from international organisations such as WHO, OIE, FAO, ...
Issues that require resolution

- What are the concrete procedures for requesting assistance?
- What are the concrete procedures for mobilising and coordinating action of international organisations?
- Who is in charge?
  - For coordination?
  - For operations in the field?
- Given today’s global health security context, what is the specific area BTWC States Parties should be concerned with? And what is their specific role?
  - BW use is an act of war
  - How does the UNSC determine BW use? How to organise an onsite investigation (fast)?
  - Under which circumstances can teams go into a warzone to offer assistance to victims of BW use?
  - Who takes responsibility if the UNSC fails to take appropriate decisions?
Part 3

TABLETOP EXERCISE:
SETTING THE STAGE
Goal of the TTX

• The overall goal is to stimulate reflection on the decision processes that could affect operations in the field

• Such reflection could cover (without being limitative)
  • Anticipation and response to an unusual disease outbreak while deployed to a conflict area
  • Threat monitoring and evaluation
  • Consideration of how an international relief and assistance response under the BTWC might affect your operations
Start of a health emergency

• NATO coordinates a peacekeeping operation along the southern part of the border between Gondwana and Rodinia

• Reports start coming in about a disease outbreak in your area of operations.
  • The causative agent appears highly contagious
  • People succumb fast after initial infection; mortality rates appear high
  • Lack of local health infrastructure and trained personnel complicates identification and characterisation of the agent
    • Initial assessment: bacterial or viral pneumonia
    • After more than 72 hours: possibly pneumonic plague

• Gondwanan Ministry of Health informs peacekeeping forces:
  • Nature and scope of disease outbreak
  • 83 cases recorded in 72 hours; in addition cases in neighbouring countries
  • Victims do not respond to antibiotics; antibiotics also do not seem to protect people
Organisation of the TTX

• 5 syndicates; two stages in the TTX
  • Syndicate session = 30 minutes (2x)
  • Plenary session = 60 minutes (2x)
• Each syndicate will receive its specific instructions on the laptop in the syndicate room
  • Appoint a coordinator and a rapporteur
    • Ignore military rank – infectious disease makes no distinction either and everybody must be able to coordinate and respond!
• Prepare concise, but detailed answers to the questions
• Type you answers (in bullet form) under each of the questions in the slides
• Keep plenary reporting very concise (5-8 minutes) to allow discussion
  • Slides from syndicates will be shared for your information
THE TRENCH

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