Strategic Responses to terrorism with CBW

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Part 1

ASPECTS OF THE CBW THREAT

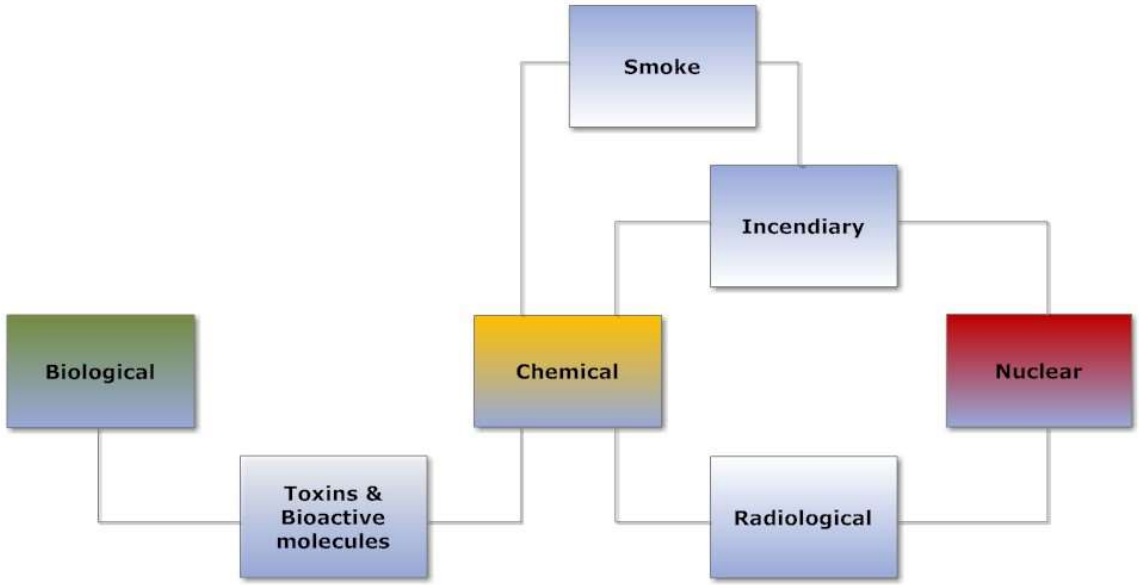
The CBW threat spectrum

- **War scenarios**
- **Terrorism**
- **Criminal acts**

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

CBRN incidents

- **Non-conventional weapon categories**



- **Most incidents are in the bottom two grey areas**
  - Toxins
  - Radiological materials
- **Agents in the bottom two grey areas are easier to acquire**
  - Enable incidents involving individuals; small groupings
  - Opportunity may play a significant role in those incidents

Acuteness of terrorist threat with CBW

- **Proliferation assessments**
  - After 11-09-01: sense of loss of control and manageability of problem
  - Heavy manipulation of public information to serve political and institutional interests (official statements, press, novels, etc.)
- **Vulnerability assessments**
  - Almost exclusive focus on mass destruction and casualties
    - (Military-type) agents with potential of greatest destruction or casualties
    - Access to or availability of agents and equipment is important component of threat equation (e.g., ISIL & Iraq)
    - Single massive attack is usually underlying assumption.
  - Emphasis on own weaknesses (only known factors)
    - Consequence management
    - Intelligence and detection
  - Less debate of other factors in threat equation (many unknowns)
    - E.g. structure of the armament dynamic inside a terrorist organization

Part 3

EVOLVING CW USE

CW use has been rare, but recurring

- **Modern chemical warfare began just over a century ago**
  - World War 1 (Western and Eastern fronts)
  - Revolutionary war in Russia; Colonials wars in Africa and Asia
  - World War 2 (China)
  - South-East Asia (1960s & 1970s)
  - All other major CW use after World War 2 has taken place in the Middle East
- **Terrorist use of CW has been extremely rare; programmes limited and/or failures**
  - Aum Shinrikyo (1994 – 95)
  - Al Qaeda in Iraq (2006 – 07)
  - Islamic State in Iraq and the Levant (ISIL) (2015 – 17)
- **In some instances used for assassination**
  - Aum Shinrikyo (1994 – 95)
  - Murder of Kim Jong-nam (Malaysia, February 2017)
  - Assassination attempt on Sergey Skripal and his daughter Yulia (UK, March 2018)

Evolving understanding of CW threat

- **Concept of 'chemical weapon' is changing fast**
  - Until end of Cold War: vast arsenals counted in ***tens of thousands*** of metric tonnes (mt)
  - Iran – Iraq war (1980 – 88): arsenals counted in ***thousands*** of mt
  - Syria civil war (2011 -): arsenal counted in ***hundreds*** of tonnes
  - Terrorist use: ***kilogramme*** amounts at most
  - Assassinations: ***grammes / milligrammes***

- **Terrorist incidents with CW: less than ¼ of 1% of all recorded terrorist events**

Alternative uses of chemical agents

- **Against humans**
  - Potential for mass casualties exists
    - Not necessarily most likely scenario as agents are difficult to acquire
  - Off-the-shelf toxicants
    - Poisons for individual assassination
    - Acid attacks
    - Property damage
    - Exploitation of vulnerabilities in the food chain
- **Economic and societal disruption**
  - Disruption functioning of utilities, enterprises, public agencies
  - Wider range of chemical agents available
    - Several can be commercially obtained (e.g., pepper spray & mace)
  - Environmental pollution with industrial toxic chemicals
    - e.g. during strikes

Opportunistic use of toxic agents

- **Use of any available toxic chemical**
  - Stores at industrial plants, water purification facilities, etc.
  - Toxic substances may be used in agriculture (pesticides, insecticides, herbicides & other anti-plant chemicals)
- **Core characteristics:**
  - No development or production of the agent by the user
  - Attacks will cease after available stores have been depleted
  - Only development may be in area of delivery system
- **Examples:**
  - ***Sri Lanka***: Tamil Tigers – chlorine from paper mill after munition ran out (1990)
  - ***Iraq***: al Qaeda in Iraq (AQI) – chlorine in truck bombing campaign (2006-07)
  - ***Iraq and Syria***: Islamic State in Iraq and the Levant (ISIL) – chlorine in mortar bombs and improvised explosive devices (IEDs) (2014 - 17)
- **Cases are rather use of CW as a method of warfare by non-state actor than terrorism**

Part 3

BW USE: A THREAT FOR THE FUTURE?

Perspectives on the BW threat

- **Use of biological and toxin weapons has so far been extremely rare**
  - Since 1975, fewer than 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 demonstrate the potential for low-casualty — high-impact events
  - Most bioterror events do not involve actual agents (hoaxes)

Nature poses by far 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), Ebola**
- **AIDS in Africa: threat to social fabric of societies**
- **Foot and Mouth Disease outbreak in the UK; Swine Fever in Taiwan, etc. (economic impact)**

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 agents available (Several can be commercially obtained)
  - Exploitation of fear and lack of adequate preparations
  - Effectiveness of hoaxes

Potential for future weapon development – 1

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

Potential for future weapon development – 2

- **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)

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

Part 4

STRATEGIC RESPONSES TO TERRORISM WITH CBW

Assistance

- **Under the BTWC**
  - May be requested by a state party
  - Offers of assistance by other state parties
  - Coordination / matching via the ISU
- **Under the CWC**
  - Part of the tasks undertaken by the Technical Secretariat of the OPCW
  - Direct assistance
  - (Regional) Training courses: Capacity-building in prevention and response
  - Investigation of alleged use / Rapid Response and Assistance Mission (RRAM) / Technical Assistance Visit (TAV)
- **UNSC Resolution 1540 (2004)**
  - Language covers Article IV of BTWC and Article VII of CWC
  - Applies to all UN Member States, not just parties to BTWC and CWC
  - Legal assistance offers available, coordinated by 1540 Committee.

CWC Article X

- **Positive security guarantee**
  - CWC States parties entitled to receive assistance and protection in case of
    - CW use or threat of CW use
    - Threat arising from violations of the CWC prohibitions on development, acquisition and stockpiling
  - OPCW Technical Secretariat prepares actively for such eventualities
  - States parties support preparations through contributions (equipment, training, logistics and transport, medical, financial, etc.)
- **Expansion of programme to chemical safety and security**
  - Facilitated extension of programmes to counter non-state actor threats
  - Prevention of accidents in laboratories, industrial plants and storage sites
  - Infrastructure protection (against e.g. terrorist attacks or intrusions)
  - Frequent (regional) training exercises on all continents by Technical Secretariat
    - Prevention
    - Response capacities
  - State-to-state transfers of equipment to enhance response capacities

BTWC Article VII

To be continued …

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