
Terrorist Acquisition of Biological and Chemical Agents

Implications for Prevention and Preparedness

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Strategic Planning and Analysis Seminar
Geneva Centre for Security Policy (GCSP)
Geneva, 1-3 July 2009

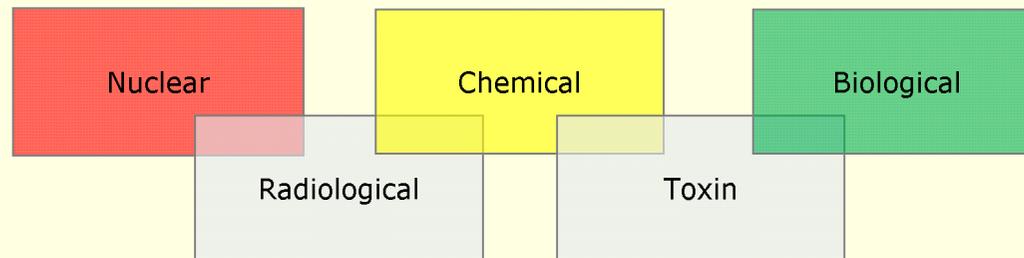
The CB threat spectrum

- n War scenarios
- n Terrorism
- n Criminal acts

- n Consideration and availability of different CB agents
 - n Depends on intent
 - n Depends on availability
 - n Depends on technical skills and structure of the terrorist/criminal entity

CBRN incidents

n Non-conventional weapon categories



n Most terrorist/criminal incidents are in the grey areas

- n Toxins

- n Radiological materials

n Agents in grey areas are easier to acquire

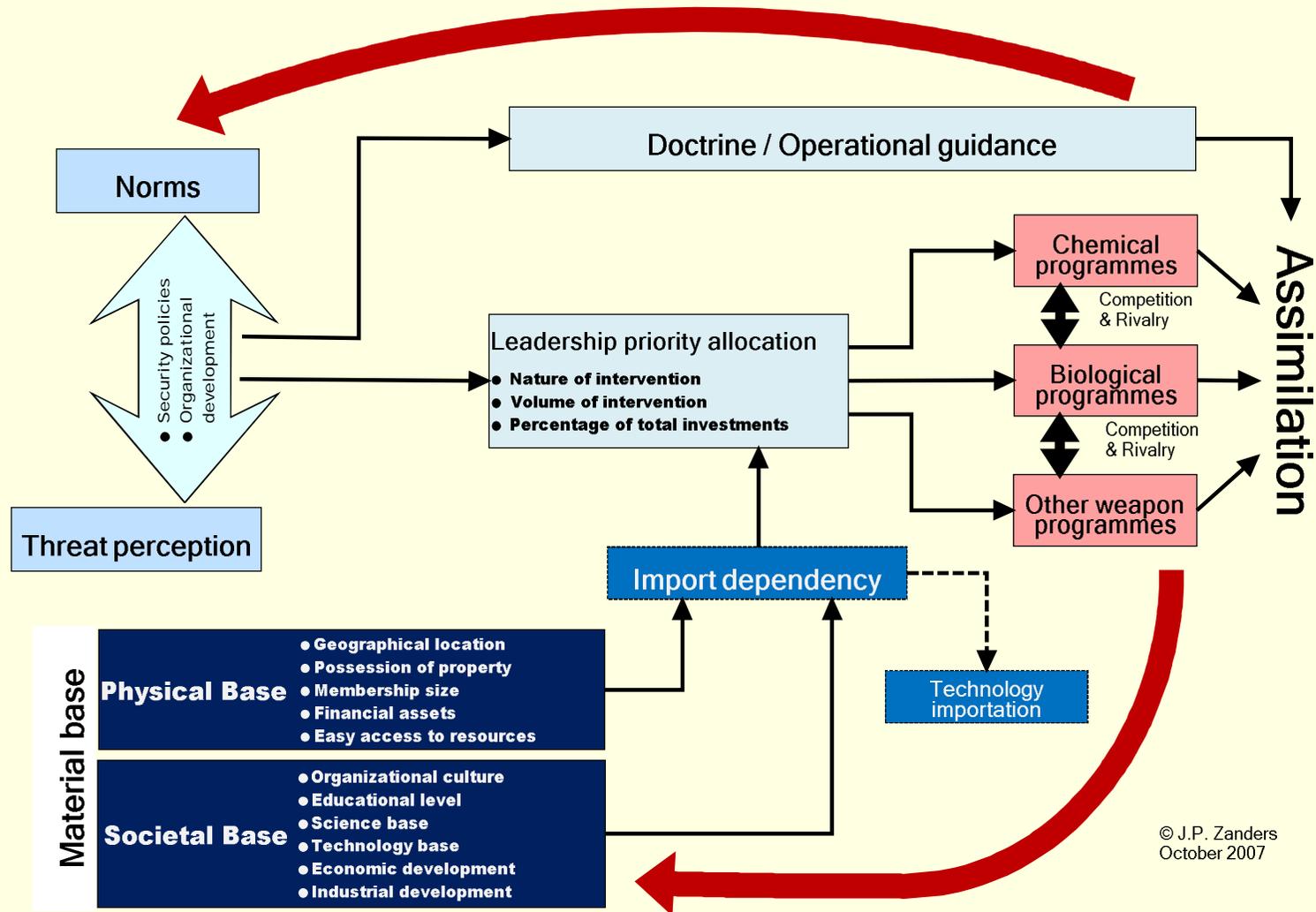
- n Enable incidents involving individuals; small groupings

- n Opportunity may play a significant role in those incidents

Organising terrorism with CB agents for mass casualties

- n Highly (vertically) integrated organisation
 - n Charismatic leadership
- n Skills required within organisation
 - n Cannot be hired
 - n Specialists must be convinced of organisation's ideology
- n Functional specialisation
 - n Different steps in armament dynamic require specific skills
 - n Places burden on recruitment of specialists
 - n Failure to do so has major impact on both armament dynamic and ability to deploy and use weapons
- n Elaborate preparations needed (large footprint)
 - n Research facilities
 - n Testing ranges
 - n Production units
- n Logistical burden
 - n Technology acquisition (high import dependency)
 - n Weapon deployment
- n Dissemination may be technologically most challenging

The armament dynamic



Norms

- n Error to assume that terrorist organisation has no norms or values
 - n Organisation embedded in society that produced it
 - n Certain values and norms will be deviant (reaction)

- n Normative behaviour is correlated to goals
 - n Does organisation need broader societal appeal?
 - n Which elements will be emphasised / suppressed?

- n Norm-setting by leadership
 - n Accepted by rank and file (e.g., impact of charismatic leadership)
 - n Indoctrination / brainwashing techniques
 - n Limited scope for questioning
 - n Isolation from broader society
 - n Low tolerance for dissidence (punishment; physical elimination)

- n Tension:
 - n Charisma is opposite of institutionalisation (needed for weapon programmes)
 - n Source of set of group dynamics that may lead to group's demise

Threat perceptions

- n Threat perception is inherent in a terrorist organisation
 - n Lives in active conflict with surrounding society
 - n Threat = existential
 - n Law enforcement / military operation may lead to elimination of organisation (no freedom from prosecution)
 - n Possibility of competition from other organisations
 - n Also on level of individual: shared experience
- n Threat perceptions tend to increase
 - n Paranoia fed by isolation from society
 - n Perceptions will increase when on verge of acquiring certain operational capabilities
 - n Concerns about footprint of operational preparations
 - n Response to real or perceived (re-)actions by law enforcement authorities
- n Sometimes artificially inflated by leadership for internal control
 - n May become difficult to manage
 - n Particularly if threats are linked to specific predicted events or dates

Security policies

- n Significant field of tension between norms & threat perceptions
 - n Determines the security policies
 - n Informs doctrinal / operational guidance development
 - n Affects internal organisational development
 - n How will the organisation structure itself to achieve goals?
 - n How does it affect priority setting?
 - n How does it inform choice of means to achieve goals?
- n Prevailing norms will affect choice of means
- n Acquisition of capabilities affects normative behaviour
 - n Development of rationale to justify capabilities (to own members)
 - n Growth of threat perceptions
 - n Fear of discovery by outside world
 - n Fear of treason / betrayal
 - n Increases urgency of weapon programmes
 - n Feedback loop from assimilation
- n Rising threat perceptions affect normative restraint
 - n Certain courses of action become gradually acceptable
 - n Acute existential threat may produce extreme (pre-emptive) actions

Material base

- n Preconditions determining ability to set up BW armament dynamic
- n 2 components
 - n Physical base:
 - n Relates to host society
 - n Virtually impossible for terrorist organisation to alter these factors
 - § Move to different society
 - § Set up branches in other societies
 - § Options, however, have impact on organisational goals, local recruitment options, or ability to blend in society
 - n Societal base:
 - n Relates to terrorist organisation itself
 - n May take a very long time to effect
- n Shortcomings in the material base determine import dependency
 - n What cannot be developed or acquired domestically, must be acquired from outside the terrorist organisation

Physical base

- n Where is the organisation located?
- n Does it own property?
- n Do cultural, educational, economic, scientific and technological characteristics of the host society promote the BC armament dynamic?
- n Ease of member recruitment
 - n Particularly regarding required skills
 - n Skills cannot be (commercially) hired
 - n Need to convince highly educated or trained individuals of organisational ideology (impact of functional specialisation)
- n Ease of access to necessary resources (e.g., precursors; laboratory equipment, production technology)
- n Ease of accumulation of financial assets
 - n Wealthy host society
 - n Tax breaks for certain types of organisation

Societal base

- n Organisational culture
 - n Decision-making structure
 - n Hierarchical structure, e.g.,
 - n Vertical integration
 - n Cell-based structure
 - n Loose affiliation of subsidiary / associated structures
 - n Leadership characteristics
- n Level of education, science & technology within the organisation
 - n Will depend on recruitment strategies
 - n Consideration of specific skills required for armament dynamic & operational planning and execution of attacks (functional specialisation)
- n Economic development
 - n Acquisition and management of financial and human assets
- n Industrial development
 - n Setting up of necessary infrastructure for research and development
 - n Establishment and running of production facilities
 - n Establishment of technology acquisition infrastructure and procedures (e.g., front companies and legitimate businesses)

Leadership priority allocation

- n BC armament dynamic does not exist for its own sake
 - n What are the terrorist organisation's strategic (top-level) goals?
- n What instruments does it seek to acquire / develop in pursuit of those goals?
 - n How does it mobilise its resources in function of those goals?
 - n How does it distribute its resources over the different programmes supporting those goals?
 - n Loose affiliation of subsidiary / associated structures
- n Which are the criteria for distribution of (always limited) resources?
 - n Purely managerial considerations?
 - n Favouritism by leadership?
 - n Impact of stimulation or emergence of competition among different programmes
 - n Relative influence on decision procedures of senior members
- n How are decisions influenced by external developments (e.g., emergence of a clear existential threat)

Weapon programmes

- n Goal—instrument relationship in selection of weaponry
 - n Large ambitions will lead to a selection of a wide variety of weaponry
 - n A single type of weaponry is unable to achieve all goals
 - n BC agents can only play certain roles
 - n For more specific or time-limited ambitions, a single weapon category may suffice
 - n Less inclination towards large investments in own development and production of weapons (e.g., complex BC agents)

- n Rivalry and competition
 - n However large the financial assets, resources are always limited
 - n There will be competition / rivalry for the share of scarce resources among the people responsible for each of the programmes
 - n Chemical and biological programmes are most likely to be run by different individuals

- n Even with nihilistic organisations, the question must be posed about the added value a particular type of weaponry has over another one (particularly in the light of their acquisition difficulties)

Development of operational guidance

- n Informed by ambitions of the terrorist organisation
 - n Influenced by normative standards
 - n Influenced by threat perceptions and their interaction with normative standards

- n Top-level goals
 - n How does it wish to achieve them?
 - n Which types of weaponry are required to achieve these goals?
 - n Do BC agents serve these goals, and if so, how?
 - n Can the group achieve or otherwise acquire these weapons?
 - n If not, necessary adaptation of top-level goals

- n Tactical goals
 - n Breakdown into sub-goals and target identification
 - n Operational planning
 - n How does it organise its forces to employ those weapons?
 - n Force structures
 - n Identification of specialised skills
 - n Training

- n Adaptation
 - n Weapon development may create strategic and tactical opportunities
 - n Complications in weapon development impose constraints
 - n Impact of evolution in threat perceptions and their interaction with prevailing norms

Assimilation

- n The degree to which the developed weapons and the operational guidance are integrated with each other
- n Variations at any stage of the armament programme will affect the nature and degree of assimilation

- n This outcome affects:
 - n The quality of the weaponry (BC agents) developed
 - n The type of weaponry developed
 - n The volume of weaponry produced
 - n The ability to deploy and use the weaponry successfully (success being defined in function of the goals)
 - n The sophistication of such deployment and use

Rajneesh cult (USA – 1984)

- n Goal: influence local elections
- n Use of salmonella (food poisoning)
 - n Over 750 people incapacitated
 - n Solution poured over food in salad bars
- n Outcome: failure
 - n test run
 - n attack on eve of elections did not take place
 - n Cult basically dissolved

Aum Shinrikyo (Japan – 1990-95)

- n **Goal: Take over government of Japan**
- n **Development of wide array of weaponry + large military force**
 - n CB agents intended to destabilise society (provocation of Armageddon)
 - n Major CB research, development and production programme
 - n Sarin attacks in Matsumoto (1994) and Tokyo (1995); assassination attempts with VX
 - n Matsumoto: 7 fatalities; about 600 injured
 - n Tokyo: 13 fatalities; 5500 other casualties (a large majority psychological distress)
- n **BW programme**
 - n Attempted cultivation of *clostridium botulinum* and *anthrax* bacteria
 - n Attempt to buy *Q fever* from Japanese culture collection
 - n Attempt to obtain *Ebola* virus from Zaire during natural outbreak there

 - n Attempt to release anthrax in Tokyo in June 1993
 - n No reported casualties
- n **Outcome: failure**
 - n Strategic goals never attained
 - n Both sarin attacks were tactical operations to thwart threats against cult
 - n Biological weapon programme never produced a usable agent, even on research level
 - n Cult dismantled; leaders arrested and tried

Mail-delivered anthrax spores (USA – 2001)

- n Perpetrator still unknown; agent from US bio-defence laboratory
 - n Bruce Ivins: A convenient end to an inconvenient truth?
- n Goal: unknown, speculation about boost to US bio-defence programmes in wake of Al Qaeda strikes against USA
 - n Targets were members of Congress (Democrats) → made opposition to spending increases unlikely
 - n Targets were mass media outlets → maximise publicity
- n Use of small amount of anthrax spores (sophisticated preparation)
 - n 22 casualties, including 5 fatalities
- n Outcome:
 - n Targeted members of media and Congress escaped unhurt
 - n Mass hysteria in the USA
 - n Anthrax spores ended up in mail in Europe and Asia

Al Qaeda / jihadist terrorism

- n Limited interest in CB agents
 - n No operational guidance
 - n Greatest interest related to cyanide compounds and toxins (ricin); concoction of pesticides + skin penetrating agent claimed to be nerve agent
 - n Primitive laboratory and testing facilities in Afghanistan prior to US invasion
 - n People with potential skills & knowledge perform other tasks; no dedicated recruitment
 - n Investment by al Qaeda central in nerve agent project: US\$ 2-4,000
- n Discussion of CB terrorism
 - n Deterrence of West (includes nuclear devices) in public statements by senior al Qaeda figures (prompted by journalists)
 - n In context of indiscriminate casualties among Muslims
 - n Otherwise mostly on jihadist websites, but very limited and often based on extremely narrow base of original texts (e.g., Poisoner's handbook)
- n Incidents
 - n Opportunistic attacks (e.g., chlorine attacks in Iraq)
 - n Sympathisers with no formal links to al Qaeda or its affiliates → ricin; toxins
 - n Often misreported (e.g., 1993 New York bombing; 2004 Amman bomb plot)

Alternative use of CB agents

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

General conclusions

- n Possibility of a major terrorist strike with CBW cannot be excluded
- n However,
 - n The acquisition process is complex for the potentially most destructive agents
 - n The armament process is not inevitable
 - n Promoting factors
 - n Counter-acting factors
 - n Paradox: some promoting factors may actually contribute to the failure of the CBW acquisition process (impact of feedback loops)
- n The 'lesser' agents in the armament dynamic
 - n Economic or environmental terrorism, assassination, and other more (time-)limited goals
 - n They come within the capabilities of more groups or individuals
 - n Lower demands on operational guidance
 - n Acquisition also less demanding
 - n Lower need for functional specialisation
 - n Less destructive
 - n Impact of exposure to low quality agents

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