


# Image Cover Sheet

<b>CLASSIFICATION</b>  UNCLASSIFIED	<b>SYSTEM NUMBER</b> 149580 
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**TITLE**  
HAZARD AVOIDANCE SECTION PROGRAM OVERVIEW

**System Number:**  
**Patron Number:**  
**Requester:**

**Notes:**

<b>DSIS Use only:</b>  <b>Deliver to:</b> DK
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**Annex L**

11 pages in total

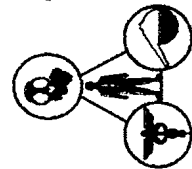


CBDICE1.04

# Hazard Avoidance Section Program Overview

by

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**Defence Sciences Division**  
Hazard Avoidance Section

**DRES**

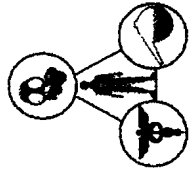


R & D for Chemical and Biological Defence

CBDICE6 94

# Potential HAS Interactions With CBDICE

- (a) Development of novel detection and identification technologies through contracts or partnerships*
- (b) Field trial teams for model development or BW detection system*
- (c) Use of specialized facilities (eg. inhalation toxicity facility and biocontainment)*
- (d) Maintenance of antibodies and cell lines for BW detection and identification system*



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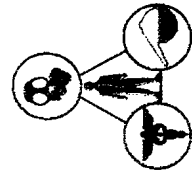
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# HAS Areas of Responsibility

1. Hazard Assessment
2. Detection of BW and CW Agents
3. Identification of BW Agents



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# 1. Hazard Assessment Projects

## (a) Development of Models

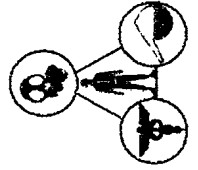
- develop computer models of BW and CW cloud movement
- develop computer models for the evaporation of CW agents from surfaces

## (b) Field Trials to Validate Models

- CONFLUX trials to get data on concentration fluctuations in aerosol clouds
- field trials to determine evaporation of CW agents from terrain

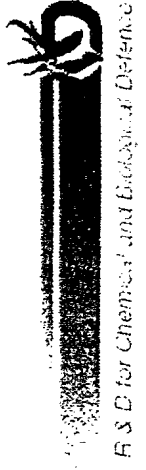
## (c) Inhalation Toxicity Studies

- determine inhalation toxicity of BW agents (including toxins) as aerosols
- Inhalation toxicity facility



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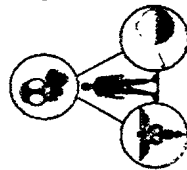
## 2. Detection of BW and CW Agents

### (a) Field Portable BW Agent Detection System

- construct concept demonstrator and conduct field trials
- miniaturize and automate detection technologies (eg. automated ELISA)
- conduct research into new technologies for detection (eg. FLAPS)
- develop integrated software

### (b) CW Agent Detection System

- field trials of CADS II detection system
- evaluation of new technologies for additional applications (eg. shipborne)



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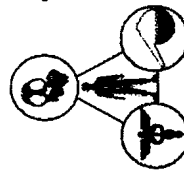
### 3. Identification of BW Agents

#### (a) Field Portable BW Agent Identification Technologies

- immunology-based identification techniques
- gene probe techniques
- biosensor development
- automated control of identification

#### (b) Laboratory Identification Technologies

- hyphenated mass spectrometric techniques



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## **THE CHANGING CBW THREAT**

- **APRIL 1989**
  - **High Intensity Conflict, European Scenario**
  - **NATO vs Warsaw Pact**
  - **New Threat Agents**
  
- **APRIL 1990**
  - **Low Intensity, Third World Scenario**
  - **Canada as a Peacekeeper**
  - **Classical CW Agents**
  
- **JANUARY 1991**
  - **High Intensity Persian Gulf War**
  - **Canada as a Combatant**
  - **BW Agents**

# AGENTS OF MOST CONCERN

## CHEMICAL

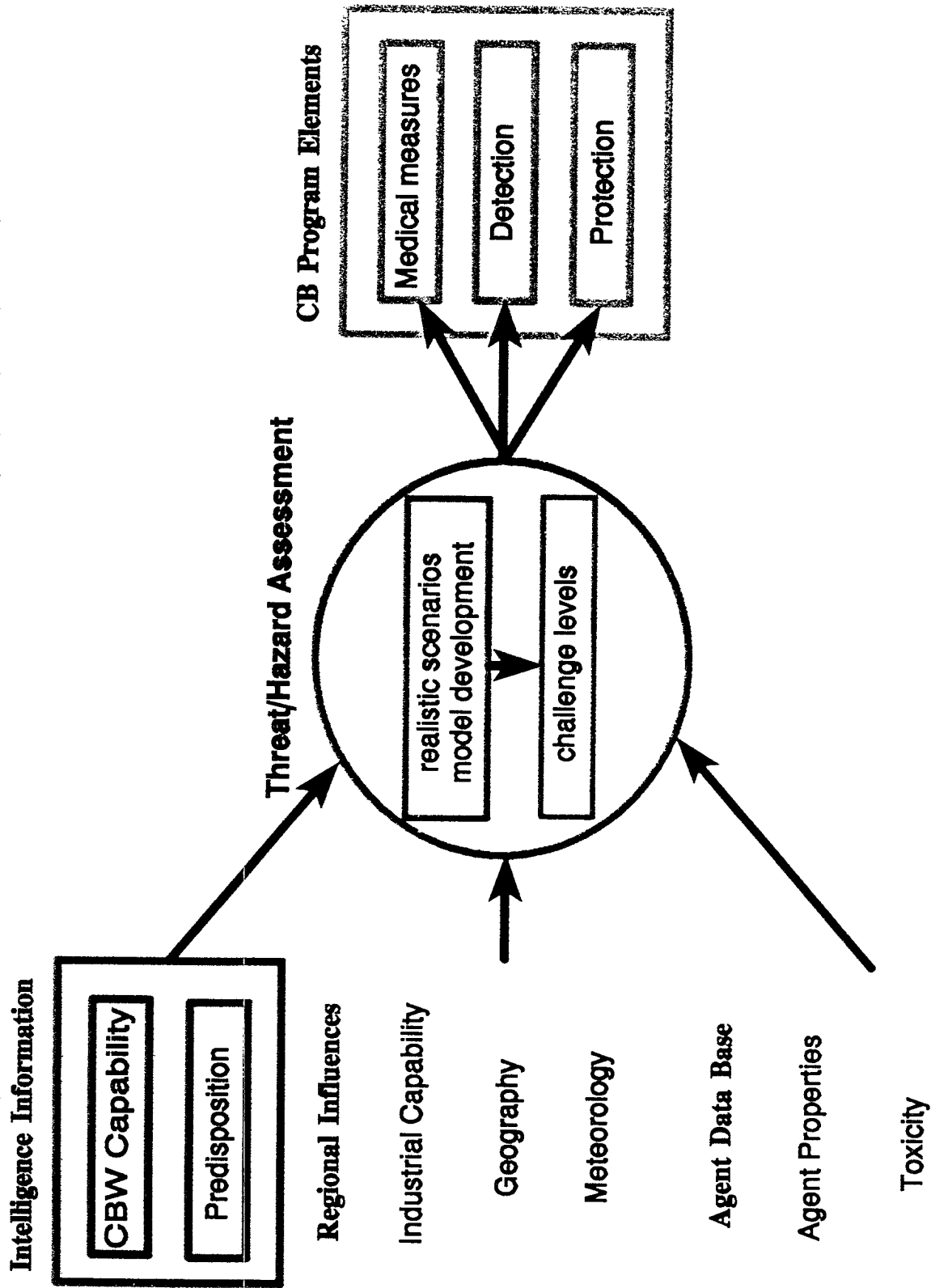
- └ Mustard
- └ Nerve Agent
- └ Industrial Chemicals

## BIOLOGICAL

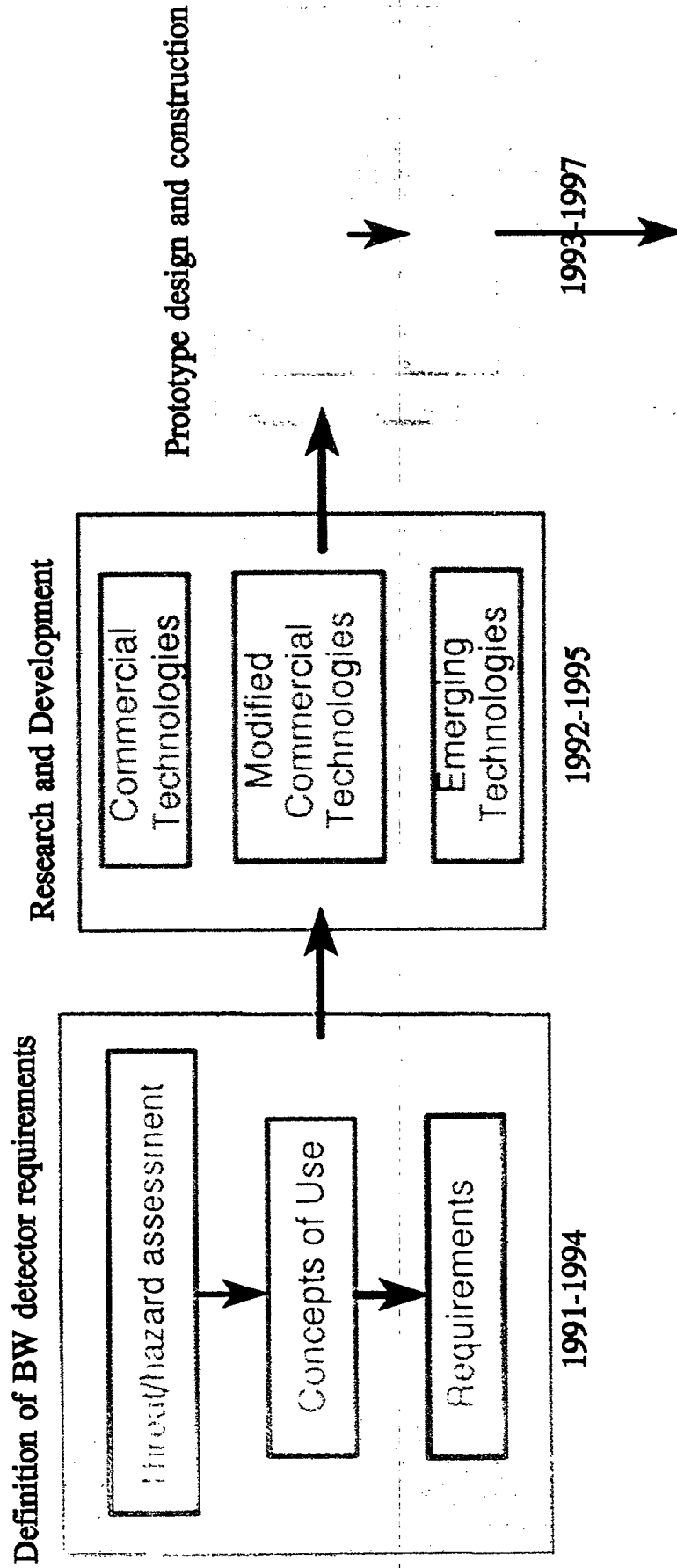
- └ Anthrax
- └ *Botulinum toxin*
- └ Plague

**CRITERIA** – all have been produced in quantity, field tested, weaponized and stockpiled

# Threat/Hazard Assessment For CBW Agents



# BW Agent Detector Project



1997-??

