Weapons of Mass Destruction

These slides are provided courtesy of the Naval Post-graduate School Center for Homeland Defense and Security
Weapons of Mass Destruction?

- Weapon of Mass Destruction (WMD)
  OR
- Weapon of Mass Disruption (WMD?)
  OR
- Weapon of Mass Casualties (WMC?)
  OR
- Something else?

What terminology makes sense to use?
Potential Classes of WMD

- NUCLEAR WEAPONS
- RADIOLOGICAL WEAPONS
- CHEMICAL WEAPONS
- BIOLOGICAL WEAPONS
- MASSIVE EXPLOSIVES
- ENVIRONMENTAL MODIFICATION
- HIGH RATE AUTOMATIC WEAPONS
- INFORMATION WEAPONS
What is a Weapon of Mass Destruction? - I

• Is destruction required?
  – Destruction implies ruining “the structure, organic existence, or condition of” something.
    
    Webster’s Ninth New Collegiate Dictionary
  – According to this definition all proposed categories of WMD are capable of “destroying” something, whether it is ruining structures, the organic existence of people, plants, or animals, or the condition (value, utility, etc.) of something

• Is an entity a WMD if it is used for constructive purposes?
  – The term weapon implies malicious intent
  – Explosives used in construction are not weapons
  – Peaceful nuclear explosives are not considered WMD
  – Nitrogen mustard (HN2) used in chemotherapy is not a chemical weapon, even though it may be called a chemical warfare agent.
  – WMD must be designed and used for destruction to be WMD
What is a Weapon of Mass Destruction? - II

• Are fatalities required?
  – No
  – Radiological weapons may produce no fatalities

• Are casualties required?
  – No
  – A nuclear explosion in an evacuated city may not produce any casualties, but the destruction will still be severe.
  – Casualties need not be physically injured; psychological casualties are possible, if not desired in some weapons.

• Is disruption sufficient?
  – Yes
  – Disruption of lifestyle, government, commerce, etc. is usually produced by the ruination of value of something. E.g., contamination may reduce the shelter value of housing or of a workspace to the point that evacuation is necessary.
What is a Weapon of Mass Destruction? - III

- What constitutes “mass” destruction?
- Except in unique circumstances, an individual armed with conventional weapons (guns or hand-carried explosives) can destroy no more than a few dozen people or damage no more than part of a substantial structure before he is rendered incapable of continued destruction.
- “Mass” should be equated with something that is at least an order of magnitude greater than an individual’s capability.
- A large group should be considered capable of mass destruction even if armed only with conventional weapons.
Working Definition of WMD

• A “Weapon of mass destruction” is any agent or entity that is both capable of and intended to produce more than 100 casualties, or damage, denial of use, or other disruption of facilities or materials that has a negative economic impact in excess of $10 million.

• The casualty and impact limits are intentionally low. However, few changes to any list of WMD would be made if these limits were increased by 1 or even 2 orders of magnitude.

• Terms such as “Mass Casualty Weapons” and “Weapons of Mass Disruption” tend to add more confusion than clarification and distract individuals from addressing the critical issues of what to do about them?
Weapons We Will Consider To Be WMD

- **NUCLEAR WEAPONS**
  - FISSION EXPLOSIVES
  - FUSION EXPLOSIVES
  - ENHANCED RADIATION WEAPONS

- **RADIOLOGICAL WEAPONS**
  - RADIOLOGICAL DISPERSAL DEVICES (RDD)
  - RADIOLOGICAL EXPOSURE DEVICES (RED)
  - NUCLEAR REACTOR DAMAGE

- **CHEMICAL WEAPONS**
  - NERVE AGENTS
  - VESICANTS (BLISTER AGENTS)
  - BLOOD AGENTS
  - CHOKING AGENTS
  - STERNUTATORS (VOMITING AGENTS)
  - RIOT CONTROL AGENTS (TEAR GAS)
  - INCAPACITATING AGENTS
  - INCENDIARY WEAPONS

- **BIOLOGICAL WEAPONS**
  - BACTERIAL AGENTS
  - RICKETTSIAL AGENTS
  - VIRAL AGENTS
  - FUNGAL AGENTS
  - PARASITES
  - TOXINS
  - VENOMS

- **MASSIVE EXPLOSIVES**
  - AIRCRAFT-DELIVERED BOMBS
  - BALLISTIC MISSILES
  - ARTILLERY SHELLS
  - FUEL-AIR EXPLOSIVES
  - CAR/TRUCK BOMBS
  - AIRLINER BOMBS

- **ENVIRONMENTAL MODIFICATION**
  - CLIMATE CONTROL (DROUGHTS, FLOODS, etc.)
  - STORM CONTROL (HURRICANES, TORNADOES, etc.)
  - OZONE HOLE CREATION
  - PETROLEUM OR CHEMICAL SPILLS
  - OIL FIELD FIRES OR MASSIVE WILDFIRES
  - DEFORESTATION

- **HIGH RATE AUTOMATIC WEAPONS**
  - MACHINE GUNS
  - ASSAULT RIFLES
  - AUTOMATIC GRENADE LAUNCHERS

- **INFORMATION WEAPONS**
  - COMPUTER VIRUSES & THEIR RELATIVES
  - ELECTROMAGNETIC WEAPONS