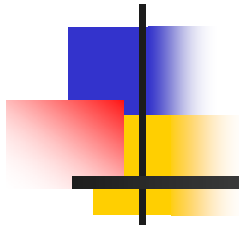


Implementing WMD Export Controls:

The Threat Environment - 2008



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Two Distinct but Interconnected Threats



State Actors: Threats from regional powers possessing or seeking WMD

Non-State Actors: Threats from violent extremist organizations



1995 Tokyo sarin attack

Greatest danger: that WMD will move from state to non-state actors

Distinctions starting to blur: Gaza, Southern Lebanon, Waziristan, parts of Afghanistan and Iraq

Different Weapons for Different Actors

States

- Nuclear, BW, CW, missiles (cruise, ballistic), advanced conventional weapons
- Militarily significant numbers required
- Seeking production equipment & precursors

Violent Non-State Groups

- Nuclear, BW, CW, radiation
- Very small numbers sufficient
- Seeking nuclear-weapons material, radioactive sources (cannot produce either); small-scale CBW production equipment, precursors
- *Non-state groups gaining capabilities*



Ghauri missile



Al-Aqsa Brigades purportedly loading rocket with chemical agent

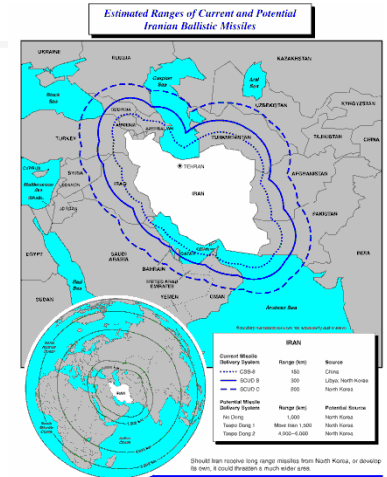
Distinct but Potentially Related Goals

States - Seeking local dominance or deterrence; most dangerous also seeking asymmetric threat to challenge outside powers



Bombing in New Delhi,
September 2008

Violent Non-State Groups - Some seeking to cause massive injury; *al-Qaeda highly likely to use WMD if available*



Interconnection – Governments or government elements in some proliferant states strongly support terrorist goals; might transfer WMD to terrorist organizations



Regional WMD and Missiles (1)

- Known or presumed to possess **nuclear weapons**
 - **India, Israel, North Korea, Pakistan**
- Possibly **seeking nuclear weapons**
 - **Iran, Syria??**
- Countries of **chemical weapon concern**
 - **Iran, North Korea, Syria**
- Countries of **biological weapon concern**
 - **Iran, North Korea, Syria**



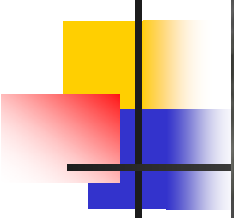
Regional WMD and Missiles (2)

- Known to possess **intermediate-range missiles**
 - **Israel, Iran, North Korea, Saudi Arabia**
- Known to possess **medium-range missiles**
 - **India, Pakistan, Syria**
- Known to produce **advanced cruise missiles**
 - **South Korea, India, Iran, Israel (?), Taiwan**



Iran - Nuclear

- More than 3,000 centrifuges operating
 - No HEU production to date
- Nascent plutonium production program
- Both programs concealed from IAEA for 18 years
 - Clandestine support from A.Q. Khan network
- Possible “break-out” potential as early as 2009
 - More likely 2010-2015
- Evidence indicates work on n-weapons through 2003
 - May have restarted this work





Mouse over buildings for more information.
Click buttons below to see construction progress.



Iran – Missiles, CW



Shahab 3



Iranian missile exercises
January 2007

- Shahab 3 intermediate-range ballistic missile (IRBM)
 - Able to reach Israel, Turkey
 - Based on North Korean No-Dong
- Shahab 4 IRBM able to reach eastern Europe(?); flight tests
- Some evidence of efforts to acquire Taepo-Dong 2 hardware, other long-range DPRK systems
- CW mobilization potential
- Believed to be pursuing BW



Iran – UN Sanctions

- UN Security Council Resolutions
 - 1737 (Dec. 2006), 1747 (March 2007), 1803 (March 2008), 1835 (Sept. 2008)
 - Mandatory under Chapter 7 of UN Charter
- Demand Iran cease uranium enrichment, plutonium-related activities
- Ban transfers of items on NSG, MTCR lists
 - Includes NSG dual-use items; UAVs
- Freeze assets of listed entities
- Ban travel of listed persons
- Call upon states to inspect cargoes to and from Iran on Iranian aircraft, vessels

Potential Threats from Iranian Nuclear Weapons

- Intimidate neighbors
- Support radical insurgencies, while deterring retaliation
 - Missile, but no WMD, transfers to non-state actors to date
- Existential threat to Israel
- Spur further proliferation in region
- Tensions among internal factions make chain of command unstable



North Korea - Nuclear

- Probably 8-10 nuclear weapons
- Nuclear test October 2006
 - Only partially successful
- Halted plutonium production
- Disabling Yongbyon complex
- Highly enriched uranium program considered inactive
 - Supplied by A.Q. Khan network
- Kim Jong Il suffers stroke; Six-Party process in doubt
 - Issues: verification, enrichment, transfers



N. Korea destroys cooling tower of Yongbyon reactor, June 2008

North Korea – Missiles, CW, Exports



Taepo-dong 1

- Hundreds of missiles able to reach South Korea, Japan
- Taepo-Dong 2 may be capable of reaching U.S. with WMD (failed tests in August 1998, July 2006)
- Missile and nuclear programs under UN sanctions
- Significant stocks of chemical weapons
- Missile exports to Iran, South Asia (including production capabilities)
- 2001-2007 exported plutonium reactor to Syria



North Korea – UN Sanctions

- UN Security Council Sanctions Resolution
 - Resolution 1718 (14 Oct. 2006)
 - Mandatory under Chapter 7 of UN Charter
- Bans transfers of items on NSG, MTCR lists; heavy armaments; luxury goods
- Freezes assets of listed entities
- Bans travel of listed persons
- Calls upon states to inspect cargoes to and from DPRK

Syria – Nuclear Weapon Program?

- US believes Syria was building **plutonium-production reactor, with North Korean aid** at al-Kibar
 - Modeled on Yongbyon reactor
 - Construction began 2001
 - Destroyed by Israel September 2007
 - Syria, with DPRK aid, razed site after attack
- US has not identified fuel fabrication, reprocessing facilities
- IAEA
 - No access to suspect sites
 - No revisit to al-Kibar
 - Unable to confirm activities at al-Kibar



Top of the Syrian reactor before concrete poured.



North Korean reactor at Yongbyon.

Syria – CW, Missile



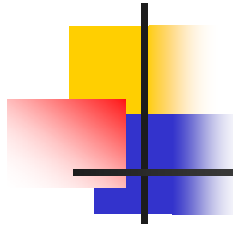
Al-Safir CW plant

- Large-scale CW capability
- Missile force able to strike near-by targets (Scud-B, Scud-C, SS-21)
- Suspected BW program

WMD Technology Smuggling Networks

- North Korean-Syria network
 - From DPRK
 - From Europe
- Iranian network – On-going
- A.Q. Khan network –
 - Unprecedented geographic scale: Iran, Libya, N. Korea
 - Unprecedented technological scale: uranium enrichment centrifuge know-how, equipment, precursors; nuclear weapon design
 - Unprecedented use of “out-sourcing” (Malaysian machine shop; South African assembly operation)

WMD Matériel Trafficking Transactions



ORGANIZER: GOVERNMENT OR PRIVATE
Intermediaries



State of Origin of Goods

■ Key Requirement:

Technology Base
Sufficient to Provide
Commodity

-- Advanced Industrial
State (e.g., U.S., FRG)

-- Emerging Industrial
State (e.g., Malaysia)

Transit State

■ Key Requirement:

Weak Export Controls

End-User State

- Iran
- Pakistan
- N. Korea
- Syria
- Al-Qaeda
(indeterminate)



Soviet WMD Legacy

- Significant progress, though important work remains
 - Securing fissile material
 - Destroying CW stocks
 - Engaging WMD scientists
 - But new disclosure Russian scientist may have assisted Iran in n-weapon design
- U.S. shifting from “aid” to “partnership”
 - Phasing out 2012



Non-State Actors

- Al-Qaeda
 - Seeking WMD; prepared to use
 - Rebuilding in Waziristan/Afghanistan, with Taliban
 - U.S., NATO, Pakistan, Afghanistan intensifying counter-terror efforts
- Hezbollah & Hamas rearmed with missiles after 2006 war
- Level of violence, role of militias in Iraq declining
- Iranian, Syrian support for violent non-state actors continues



Conclusions

- Iran's continuing effort to develop the capability to manufacture n-weapons is most dangerous current threat
- Syria's apparent clandestine nuclear effort highlights a major new danger, but may have been stymied
- North Korean nuclear negotiations hold promise; situation not, apparently, worsening – but missile program continues to need external purchases
- Al-Qaeda/Taliban stronger, but major new effort to uproot these groups is now being launched