

# Type III Nuclear Proliferation: Challenge and Policy Response

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# This presentation will discuss:

- Three Types of nuclear proliferation
- Important characteristics and consequences of Types II and III--next four to ten years
- Policy instruments

# Three Types of Proliferation

- Type I: 1945-1960 Acquisition by advanced industrial states
- Type II: 1964-? Acquisition by non-European and economically developing states, especially in Asia
- Type III: 1990- Entry of non-state, sub-state, and transnational groups as suppliers *and* potential end-users

# Type I Proliferation 1947--

*The development of atomic bombs was no longer a problem of science in any country, but a problem of engineering.*

-- Werner Heisenberg, Feb. 1947

- US, 1945
- Soviet Union, 1949
- United Kingdom, 1952
- France, 1960
- Other cases
  - Israel, South Africa built weapons
  - Sweden, Switzerland, considered but rejected

# Type I: Consequences

By 2004: almost 16,000 Nuclear weapons held by:

- Russian Federation 7,958
- United States 7,088
- France 348
- United Kingdom, 185
- Significant stockpiled quantities of fissile material, especially by US and RF

# Leakage from Type I States

- Direct and indirect assistance by the US to France and UK
- Soviet assistance to PRC
- French cooperation with Israeli program
- Some collaboration between Israel and South Africa?

# Type II Proliferation in Asia and the Middle East

*I am haunted by the feeling that by 1970, unless we are successful, there may be 10 nuclear powers instead of four, and by 1975, 15 or 20.*

— John F. Kennedy, March 1963

- China, (1964, tests and declaration)
- Israel (1969, no tests, no declaration)
- India, 1974 (no declaration; tests and declaration in 1998)
- Pakistan, 1989 +/- (tests and declaration in 1998)
- North Korea, 1999? (no tests, no declaration)

# Others seriously considered or built nuclear weapons:

- South Africa
- Taiwan
- Argentina
- Brazil
- Iraq



# Type II Proliferation: Consequences

- South Asian Proliferation complex: China-India-Pakistan
- Middle East Proliferation complex: Israel-Iran-others?
- Northeast Asian Proliferation complex: China, North Korea-Japan-Taiwan?
- Pakistan's special role in all three regions

# Type II Proliferation: Consequences

Warheads of Asian/Middle Eastern Powers:

- DPRK= 2+
- PRC=402
- India=40+
- Pakistan=40+
- Israel=200

Source: IISS, Military Balance, 2004-2005

# Five Factors Contributing to Proliferation

- Neighbor/rival of existing NWS
- Potential for domestic regime change
- Influence of relationship with US
- Possesses technical or financial capability to acquire NW
- Prestige

# Type II Proliferation Scenarios: Best-case, worst-case, as of 2010

*Missiles carrying atomic and biological weapons will, within the decade, be within the reach of as many as twelve Asian nations, from Israel to North Korea.*

*-- Paul Bracken, **Fire in the East**, 1999*

- Best Case: Israel, Pakistan, India, China
- Worst Case: The above, plus North Korea, Egypt, Turkey, Iran, Taiwan, South Korea, Japan in linked rivalries

# Type III Proliferation: Harder to Control

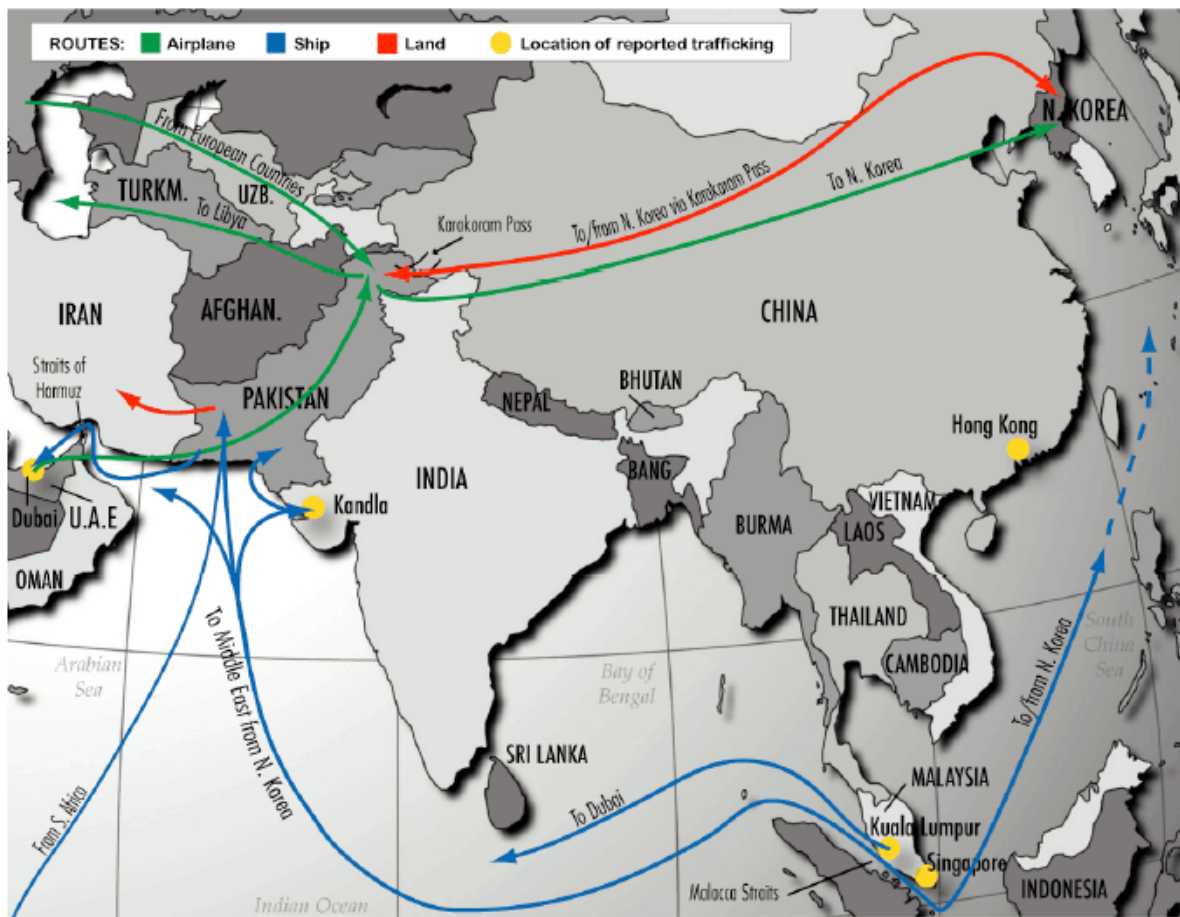
- *Transnational:* A.Q. Khan network organized on three continents, did business with at least four states: Libya, Iran, North Korea, possibly Iraq.
- *Non-State networks:* al Qaeda received assistance from UTN (“Reconstruction of the Muslim Umma”)
- *Criminal gangs:* 1993 Mumbai blasts: Dawood Ibrahim, Mumbai-Karachi-Dubai nexus, recent blasts sponsored by others
- *Fragmenting states* and dispersion of nuclear weapons

# Type III Proliferation: Pakistan Illustrates the Problem

- Khan network fully revealed only after Libyan, Iranian disclosures: which is worse: that the Pakistan government knew of his selling activities, or did not?
- UTN discovered only after invasion of Afghanistan
- Dawood network linked to Pakistan intelligence
- Breakup of Pakistan would lead to scramble for control over nuclear weapons, fissile material

# Type III Proliferation: Wide Geographical Range

Nuclear Trafficking Routes: South and Southeast Asia



Note: The A.Q. Khan Network and other equipment/material trafficking linked to national arms programs, 1994-2004 (including missile routes).

# Type III Proliferation: Situations to Watch

- *Iran*: Role of militias, hidden laboratories, links to Hamas and militant Shia groups
- *Pakistan*: future deterioration (several scenarios)
- Fragmenting *Egypt*, *Saudi Arabia*, alienated *Turkey*
- *Southeast Asia*: resurgent Islamist militants



# Type III Proliferation: Prospects

- Hard to estimate how many additional networks exist
- A potential for new networks as regional rivalries increase, and if Islamic extremism grows
- Interaction among less stable states which cannot control non-state groups, or may be tempted to use them to spread nuclear and related technologies

# Type III Proliferation: Variety of Threats

- Simple fission devices
- RDD devices, crude radiation attacks
- Simple long-range delivery systems, e.g. container ship
- Simple short and medium range delivery systems, truck, taxi, bullock cart, dhow

# Type III Proliferation: Control and Prevention Strategies

- Formal arms control agreements useful, but usually ratify existing practices
- Treaties and “regimes” are irrelevant to some sub-state, terrorist, and non-state groups
- Strong cooperation among key states
- PSI, CSI, perhaps new ad hoc forms of bilateral/multilateral cooperation

# Type III Proliferation: Control and Prevention Strategies (contd.)

- Very transparent civilian nuclear systems
- Admit mistakes early
- Accept that there will be failures, but learn from them
- Control and prevention strategies must also be measured in terms of cost, legal norms, social dislocation
- Not all threats can be anticipated: expect the unexpected

# Conclusions

- On balance, nuclear proliferation risks are being “democratized” and “privatized”: affect local populations more than whole states; parallel to bio-terrorism
- Likelihood of a single nuclear attack on a major city increases dramatically in Type-III proliferation world
- Greater need for enlightened cooperation, in and out of treaty regimes, to deal with Type-III proliferation
- A law enforcement, intelligence, *and* a military problem