
Nuclear Non-Proliferation facing Failure: The North Korean and Iranian Challenges

Lecture given to the
“NATO European Security Co-operation Course 2007”
NATO School Oberammergau

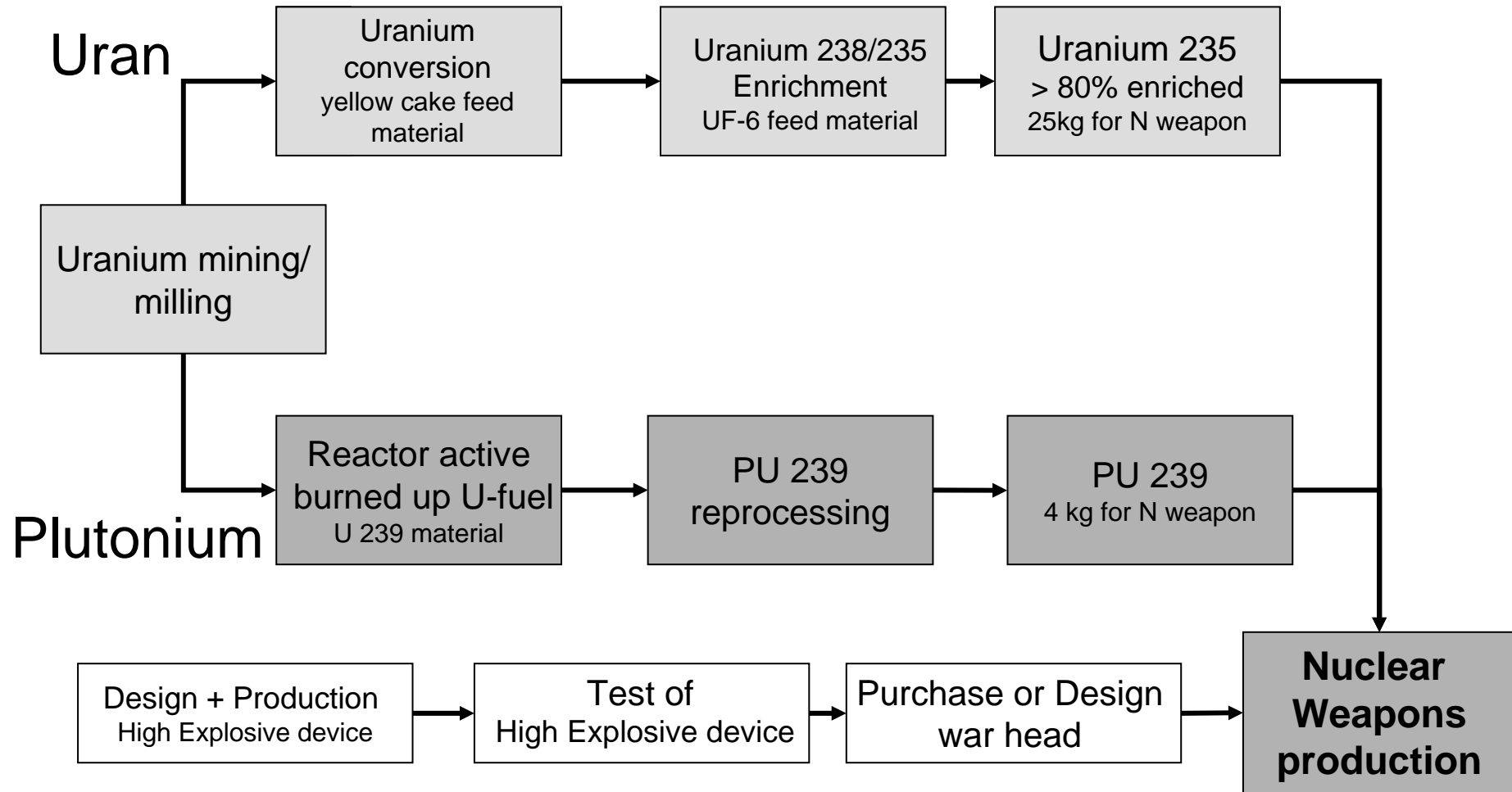
Outline

1. Introduction: How to build a nuclear weapon?
2. The Nuclear Nonproliferation regime: Structure and success
3. The North Korean challenge
4. The Iranian challenge
5. Summary

Step 1

How to build a Nuclear Weapon?

Nuclear Weapons: Uranium + PU production roads



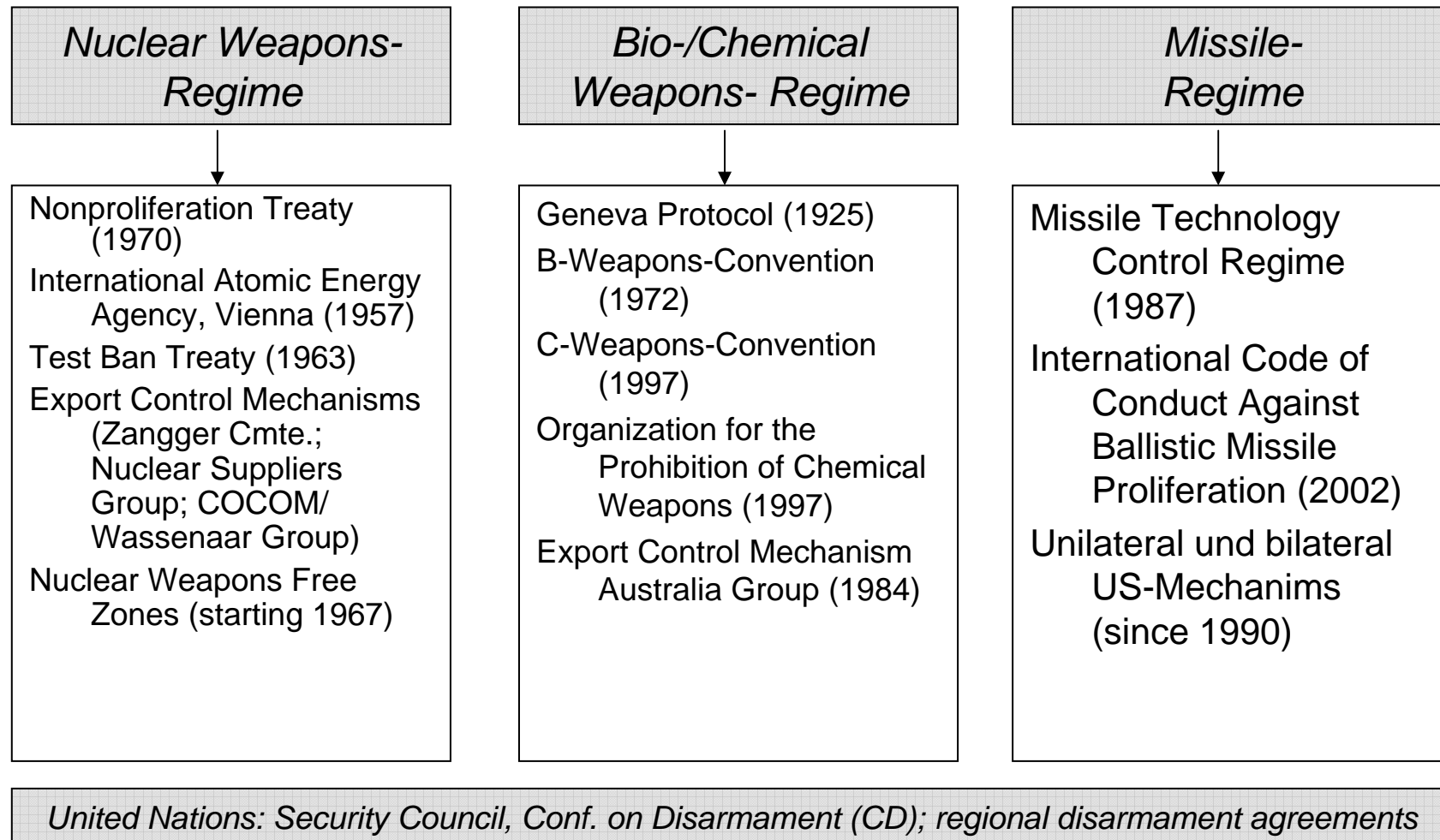
Typology of Weapons of Mass Destruction

| | N-Weapons | B-Weapons | C-Weapons | Radiol. Weapons |
|---------------|--------------------------------|------------|------------|--------------------|
| Producibility | Hard | Easy | Easy | Very easy |
| Costs | Very high | Low | Low | Low |
| Deployability | High (material/ immaterial) | Medium/low | Medium/low | High |
| Legality | Partially legal | illegal | illegal | Legality varies |
| Lethality | Very high | Low/medium | Low/medium | low |

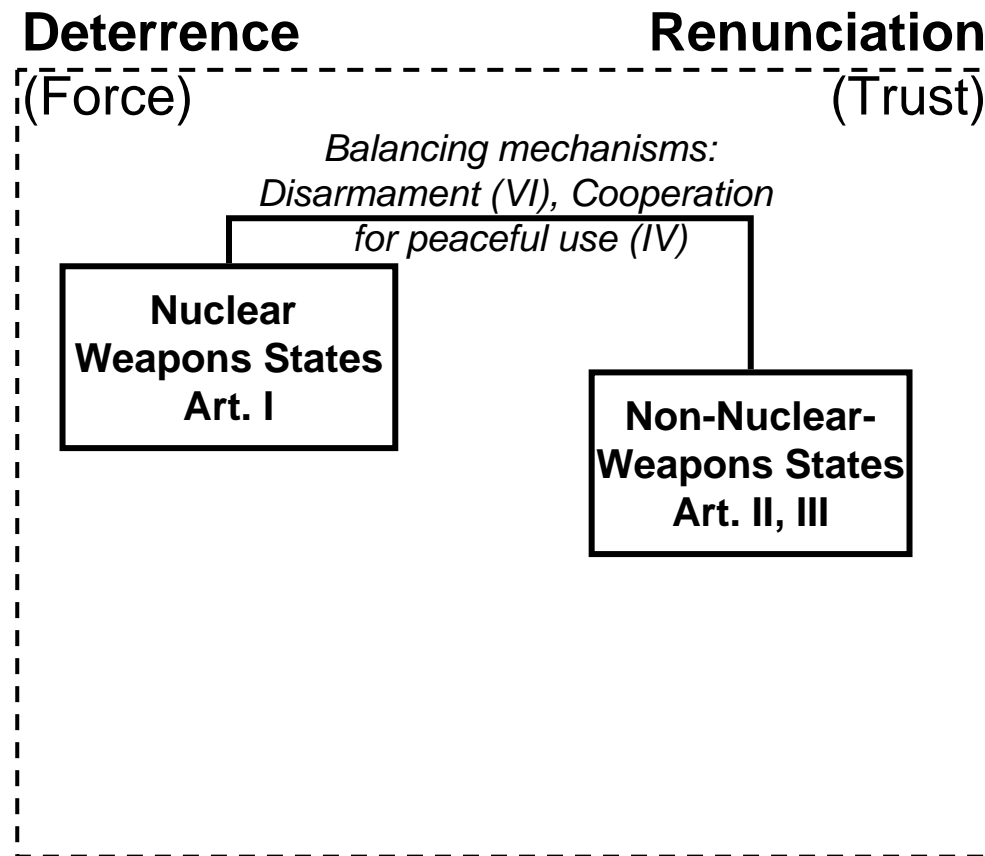
Step 2

The Nuclear Nonproliferation Regime: Structure and Success

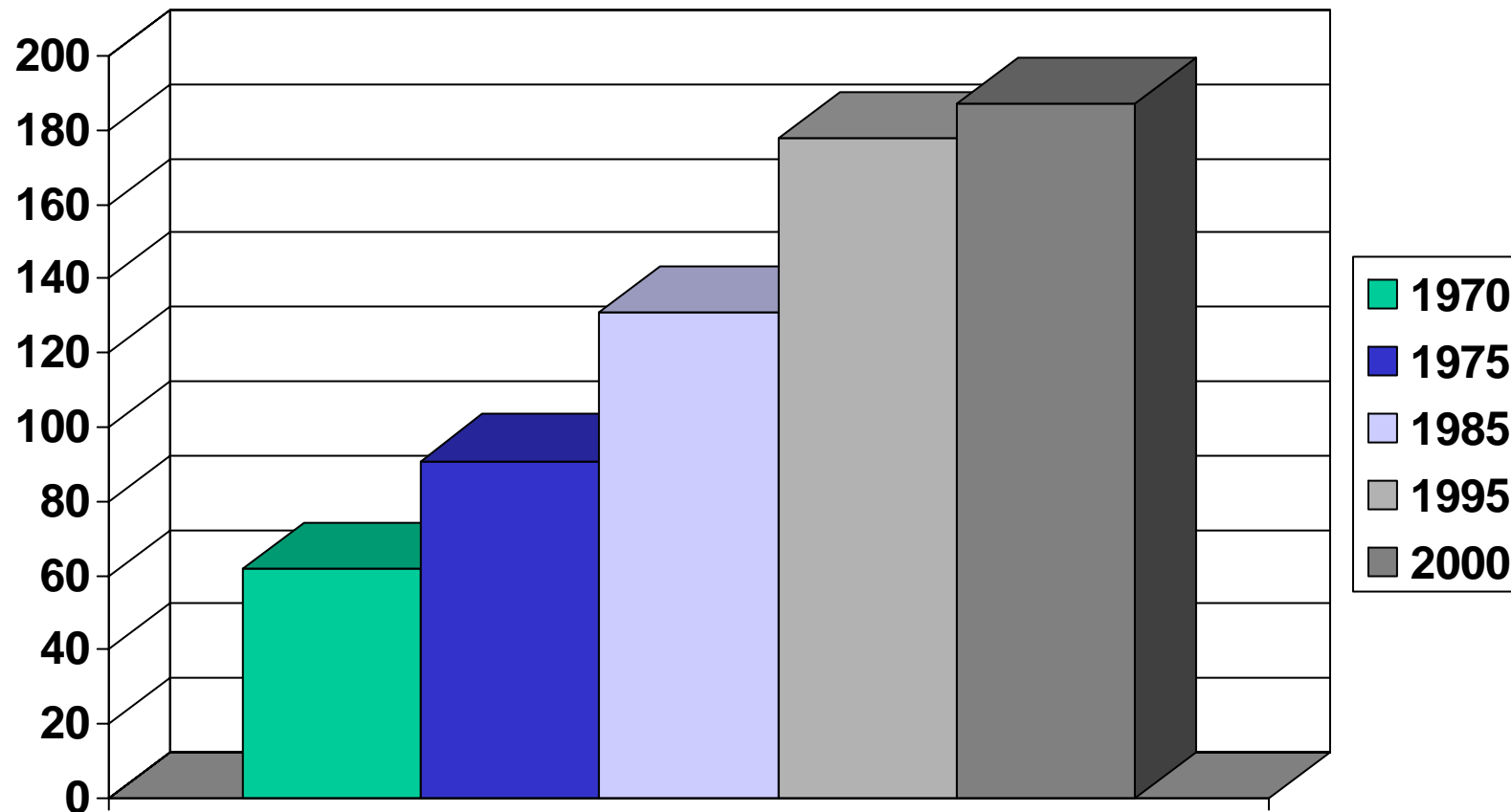
The International Nonproliferation Regime



The constitutional order of the Nonproliferation Treaty

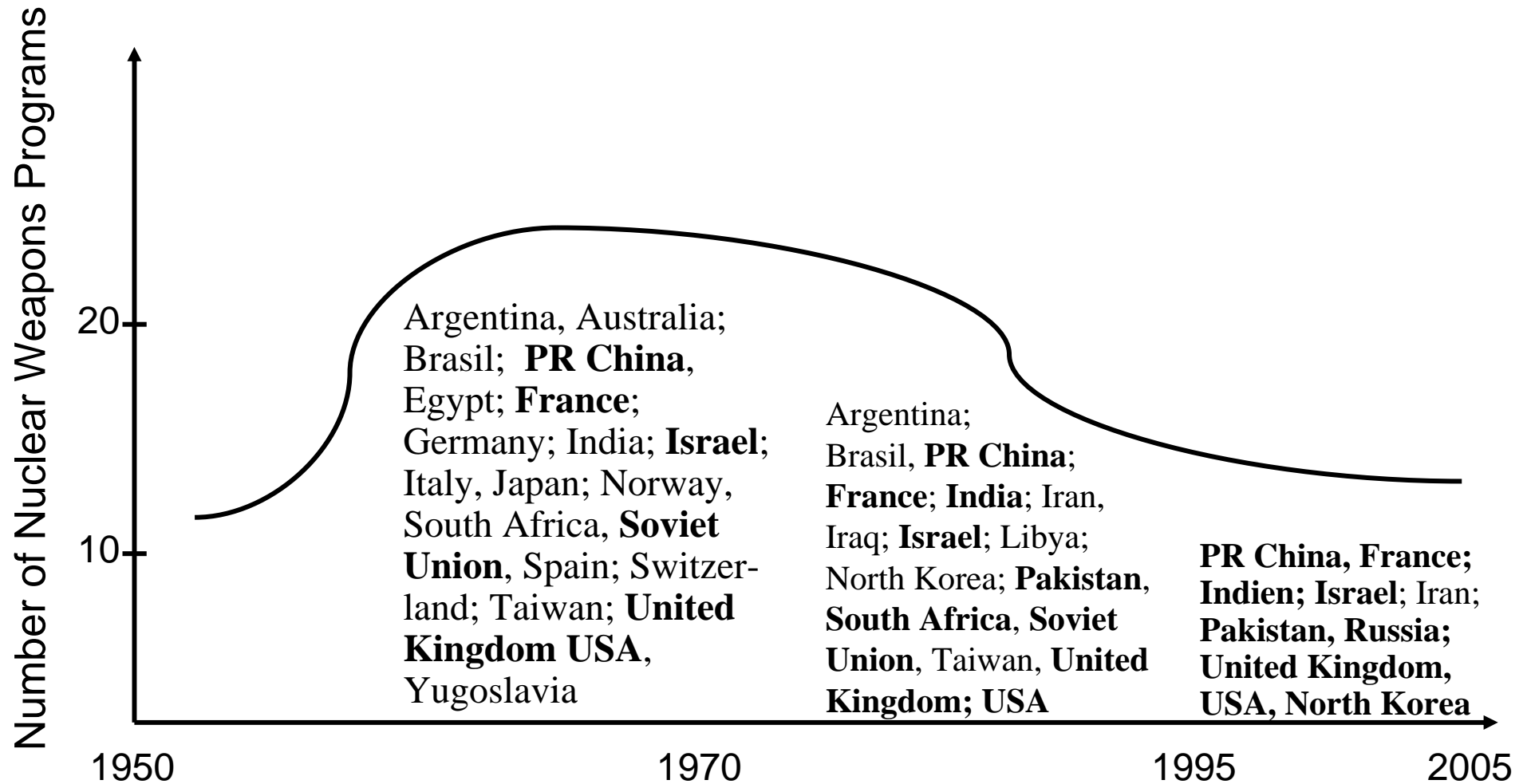


NPT Membership 1970-2005



Non members: Cuba, India, Pakistan, Israel

Proliferation of potential or active Nuclear Weapons Programms 1950-2005



Step 3

The North Korean challenge

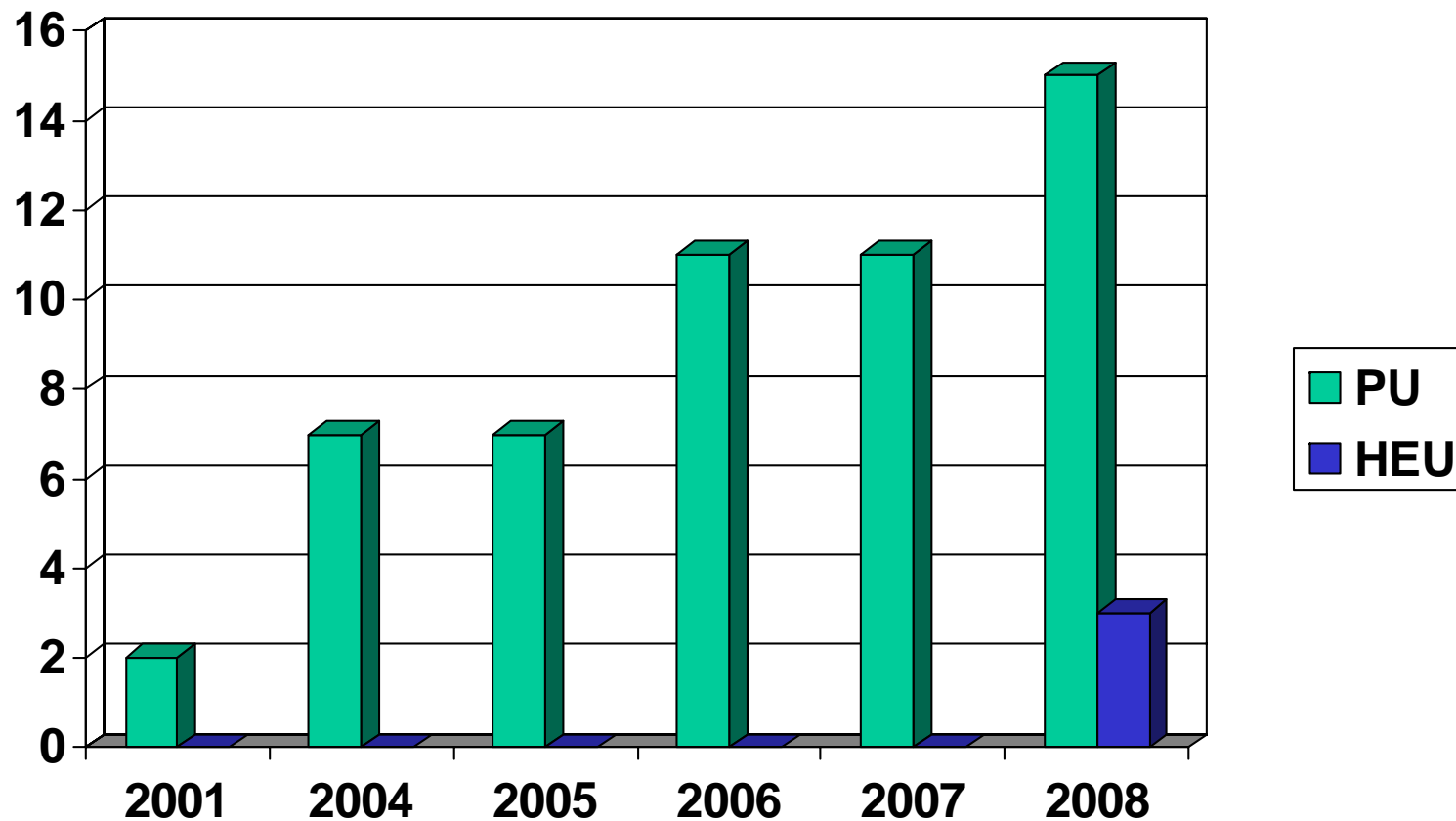
Development of DPRK PU-Weapons Program

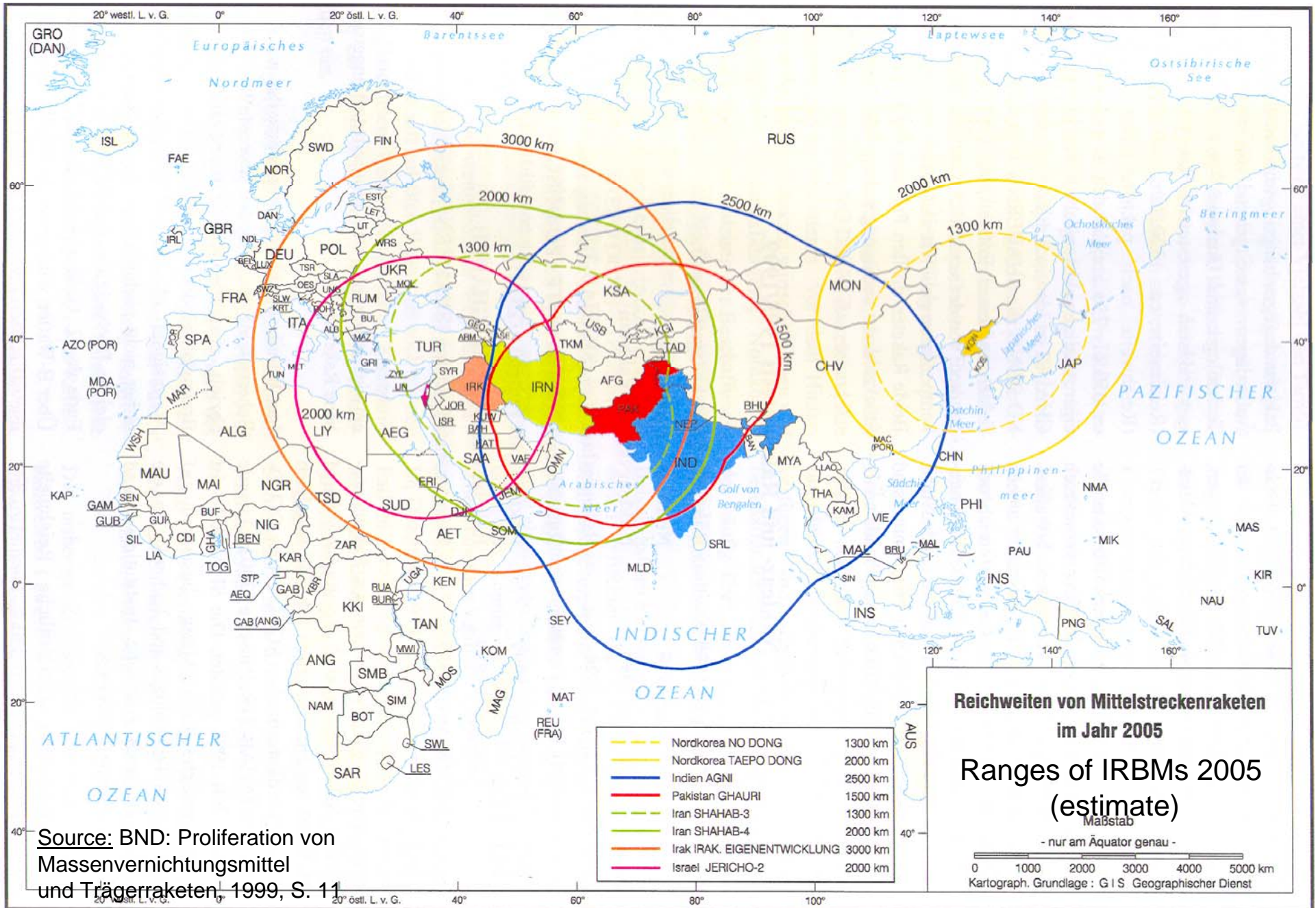
Factor

Development

-
- | | |
|--|--|
| 1. US threat of N weapons use during Korean war; Cuban crisis | 1. Since 1965: Cooperation with SU, Construction of N research reactor |
| 2. US withdrawal from Vietnam; South Korea considers N weapons | 2. Since 1975: Accelerated Construction of 5 MW reactor |
| 3. Reversal in SU Security Policy | 3. 1985 NPT membership |
| 4. End of Cold War: Loss of traditional alliance partner Soviet Union (PR China) | 4. 1989-1991: Extraction of spent fuel rods for PU reprocessing => War head production |
| 5. Change in US policy vis-à-vis DPRK 2002/2003 | 5. Reprocessing of 8.000 spent fuel rods frozen under 1994 US-DPRK agreement =>Resumption PU-Program (1/2003) |

Projection of DPRK PU and Uranium based Nuclear Weapons Production Capabilities, 2001-2008





Source: BND: Proliferation von Massenvernichtungsmittel und Trägerraketen, 1999, S. 11

Ballistic Missile Trade between DPRK and Iran

- In December 2005 the German Tabloid „BILD“ reported on German intelligence findings that the DPRK had delivered 18 disassembled IRBMs (Typ SSN-6/R-27) with a range of 2.500 to 4.000 km (Report was confirmed by German official).
- The payload of the SSN-6 is unknown, but it may carry an advanced war head design (below 500 kg).



Soviet SSN-6 Ballistic Missile (source: *Janes*)

Consequences of DPRK Nuclear Weapon State Status 2006

- 1. Militarized conflict on the Korean Peninsula**
 - Conventional military provocations will become more likely as DPRK nuclear deterrence increases.
 - Nuclear Weapons Test more likely during military crisis situation.
- 2. Regional destabilization through DPRK N Weapon state status**
 - Member states of Six-Party-Talks have implicitly accepted DPRK NWS status.
 - DPRK threat drives counter measures (US-J BMD program) and growing interstate rivalry.
- 3. Interregional destabilization through WMD export**
 - Beyond missile proliferation (e.g. Pakistan, Iran) DPRK increases nuclear weapons export capacity.
- 4. Global Stability of Nonproliferation Treaty (NPT)**
 - DPRK example influences Iran and US Nonproliferation policy.

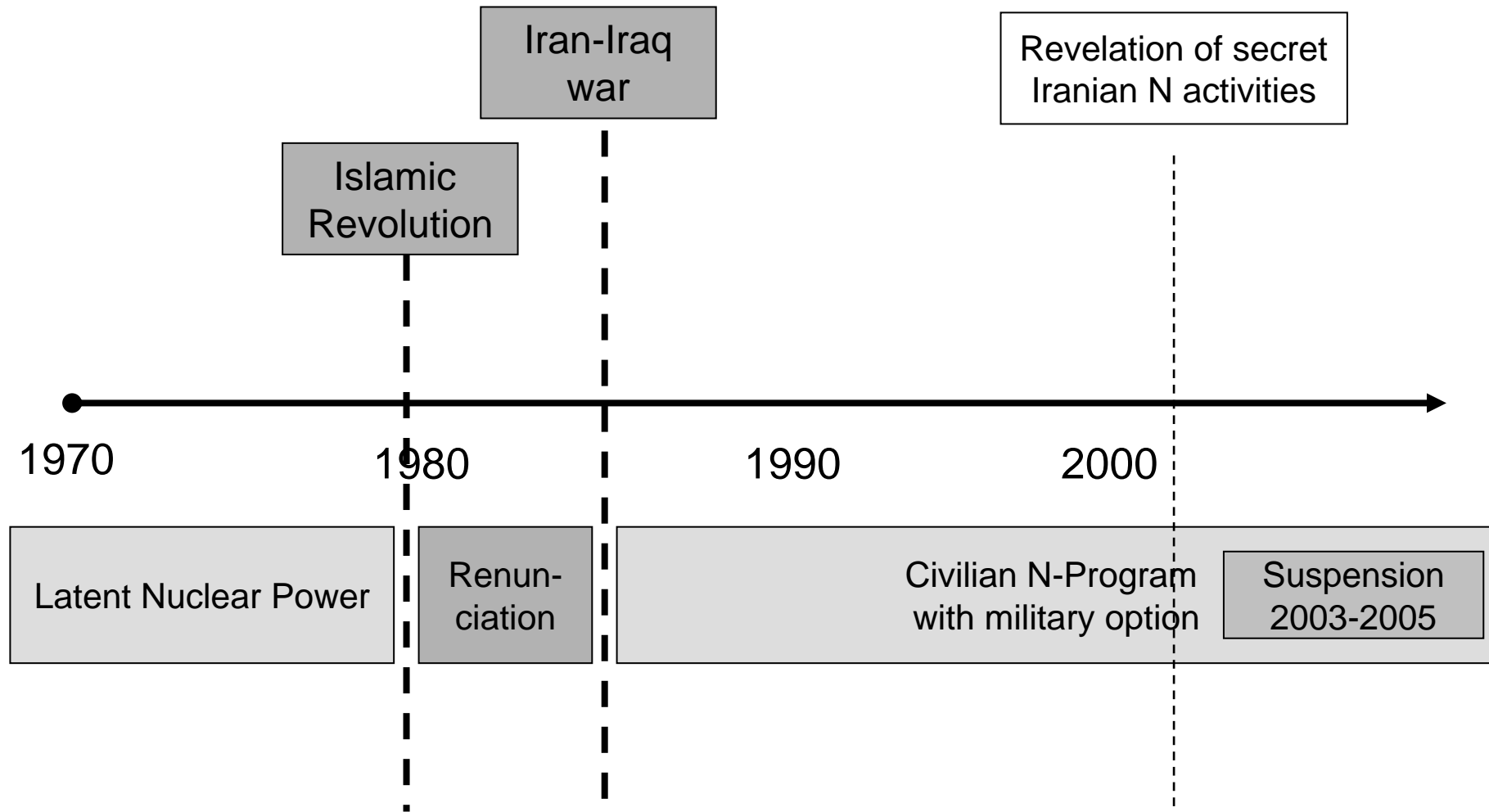
Step 4

The Iranian challenge

The Iranian Nuclear (Weapons) Program: motives

1. Status and prestige as an advanced industrial nation
2. Support for traditional regional Great Power status
3. Deterrence of nuclear capable forces in neighboring states (Afghanistan, Iraq und Gulf states)

Development of Iranian Nuclear (Weapons) Program 1970-2007



Akbar Hashemi-Rafsanjani, Commander-in-Chief Iranian Armed Forces in October 1988

“With regard to chemical, bacteriological, and radiological weapons training, it was made very clear during the war that these weapons are very decisive. It was also made clear that the moral teachings of the world are not very effective when war reaches a serious stage and the world does not respect its own resolutions and closes its eyes to the violations and all the aggressions which are committed in the battlefield. **We should fully equip ourselves both in the offensive and defensive use of chemical, bacteriological, and radiological weapons. From now on you should make use of the opportunity and perform this task** (cited in Cirincione et al. 2005: 298).

Iranian Nuclear (Weapons) Program: Status February 2007

1. Iran has no nuclear weapons, neither enough weapons grade material, nor weapons grade capable plutonium or uranium production facilities at this time.
2. The plutonium based program is currently behind the uranium based. If a crash program occurred both could feed a weapons capacity in 2010 earliest.
3. The centrifuge enrichment program is unstable: domestic UF6 capacity and stability of larger cascades is still in doubt.
4. Russia recently suspended support for completion of light-water reactor in Bushehr which could have produced weapons grade material in 2008f.
5. There is substantial evidence of Iranian procurement of dual-use items for war head production.

Consequences of a (potential) Iranian NW status

1. Local conflicts in the Persian Gulf

- Iranian military provocations vis-à-vis US forces and neighboring countries become more likely as deterrence capacity increases.
- Proliferation to non-state actors cannot be ruled out because of pluralistic and diverse Iranian regime structure (competing security forces).

2. Regional Destabilization through Iranian NWS status

- Gulf states, Saudi-Arabia, Jordan and Egypt have recently declared interest in „civilian nuclear program“. Egypt and Saudi-Arabia are unlikely to rely on extended nuclear deterrence by US.
- Historical experience and current Iranian policy render an Israeli deterrence policy vis-à-vis Iran unlikely.

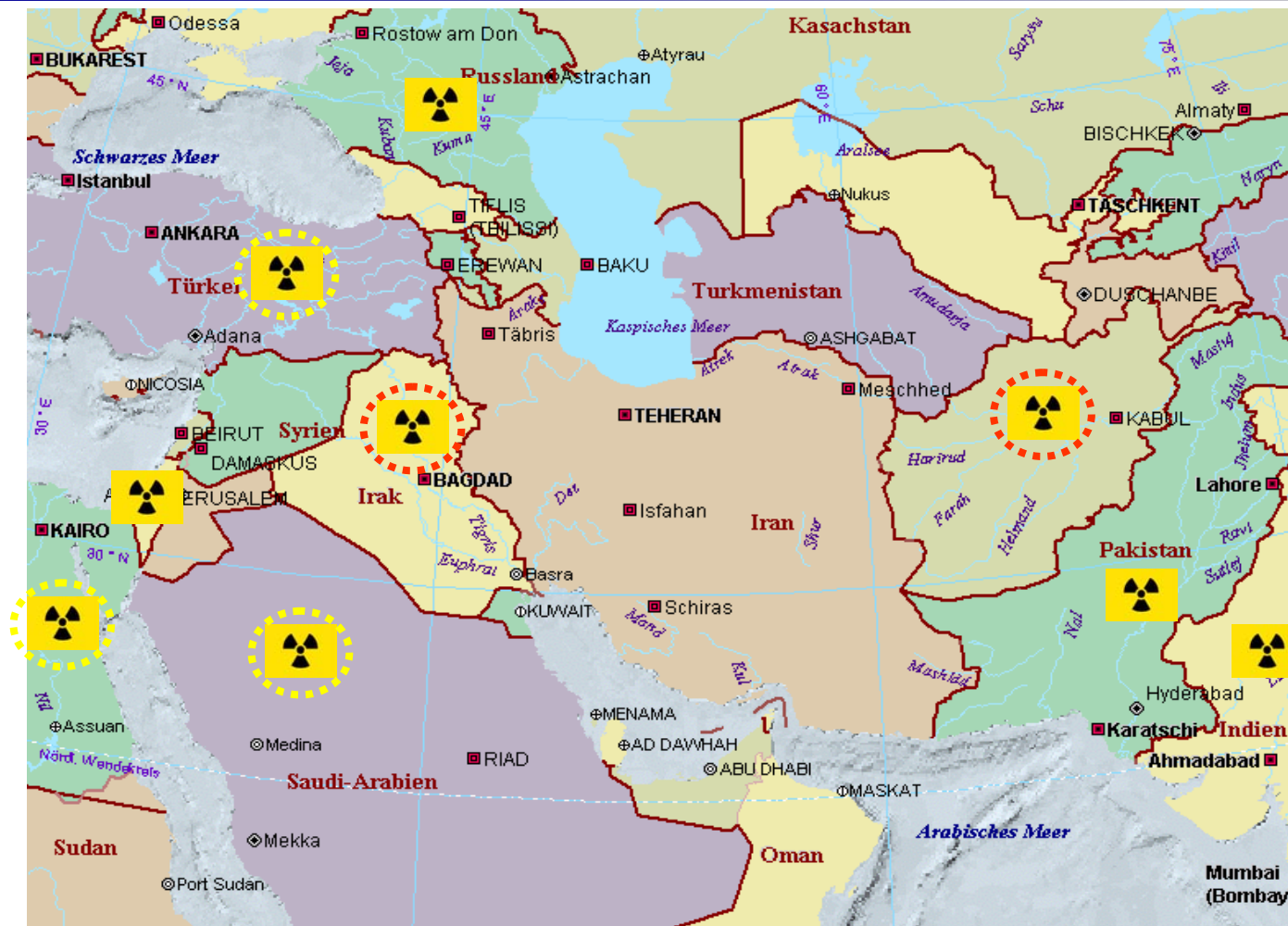
3. Interregional Stability through Iranian WMD export

- WMD Proliferation by Iran cannot be totally ruled out.

4. Global stability of NPT

- If North Korea and Iran leave and stay outside NPT as non-compliant member states the nuclear nonproliferation will be severely weakened.

(Potential) Nuclear Weapon States in the Iranian Security perimeter



Summary

1. In comparative perspective the (potential) Iranian challenge to the NPT is more serious, because
 - It adds up to the DPRK non-compliance and withdrawal.
 - It probably initiates a „nuclear chain reaction“ in the Middle East which is likely to be prevented in Northeast Asia.
 - If a full blown weapons program occurs it will be most likely driven by security concerns whereas the DPRK program also partially serves as negotiating tool.

2. In comparative perspective the cooperative reversal of the DPRK NWS status will take much longer than a cooperative prevention of an Iranian NWS status, because
 1. Both the DPRK economy and the status of the DPRK military is dependent on a foreign threat and the pursuit and export of WMD.
 2. Both the political economy and pluralistic structure of the Iranian regime are more sensitive towards foreign incentives and sanctions.
 3. The Security Council has shown significant unity in specifying and enforcing NPT rules in the Iranian case.