



NPT Noncompliance Taking the Global View

INMM

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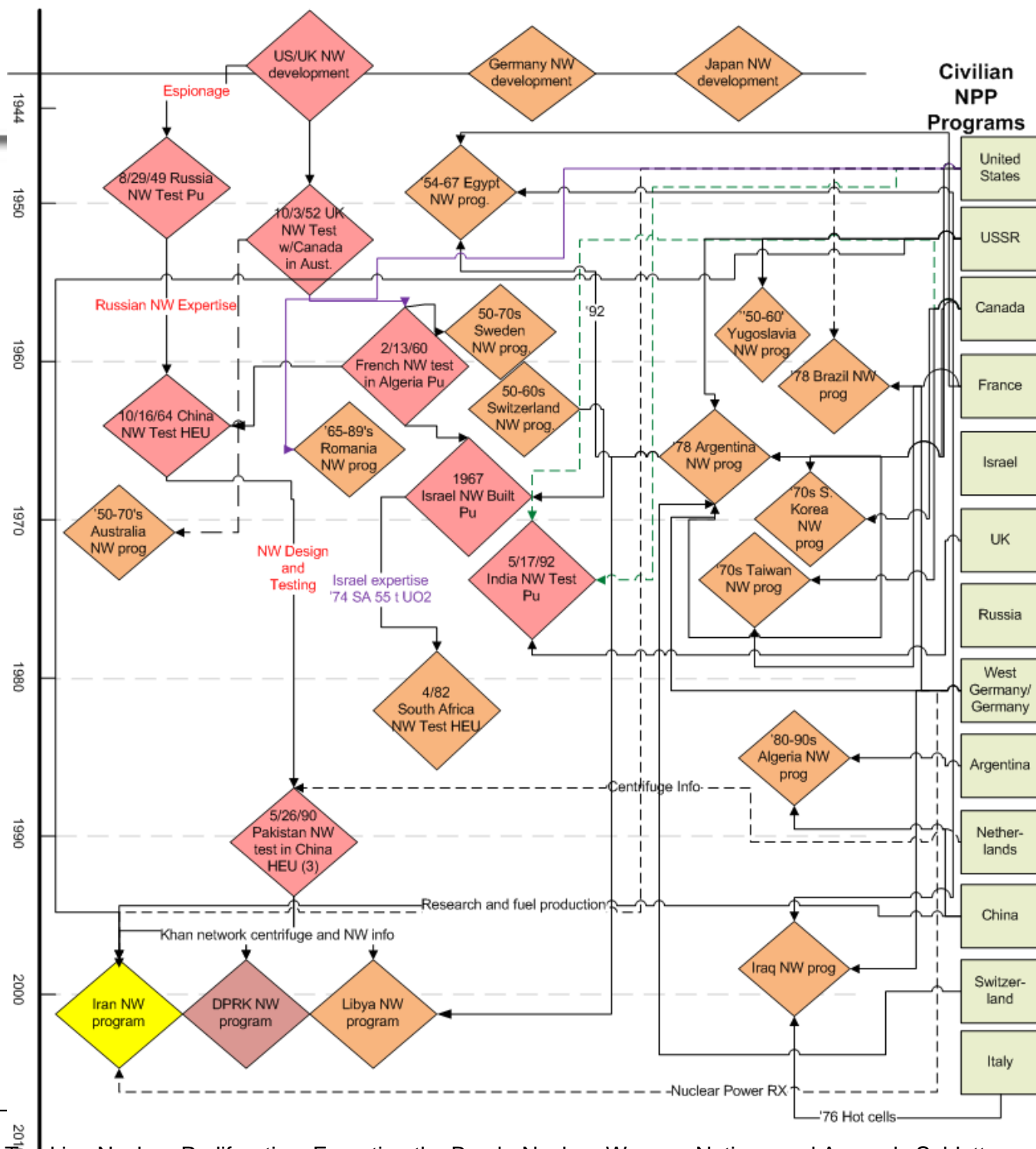


States Providing Nuclear Technology

- Objective
 - Review the role of States that provide nuclear technology
 - To see the impact that government changes have on a States nuclear proliferation behavior and potential for nuclear transfer
 - Sources:
 - Spying on the Bomb, Richelson, J.
 - Dark Sun, Rhodes, R.
 - The Nuclear Express, Reed, T. and Stillman, D.
 - Exporting the Bomb: Why States Provide Sensitive Nuclear Assistance; Kroenig, Matthew. 2/2009.
 - Nuclear Weapon Nations and Arsenals, 8/2001, <http://nuclearweaponarchive.org/Nwfaz/Nfaz7.html>, Subletter, Carey.
 - Tracking Nuclear Proliferation, PBS, 5/2/2005. Mbekelu, Wendy.



- Nuclear knowledge has been transferred between nations since the beginning.
 - Russia-China-Pakistan-Libya, Iran, DPRK
 - France-Israel-South Africa
- Also transferred via commercial nuclear programs.
- Political decisions often trump nonproliferation issues.

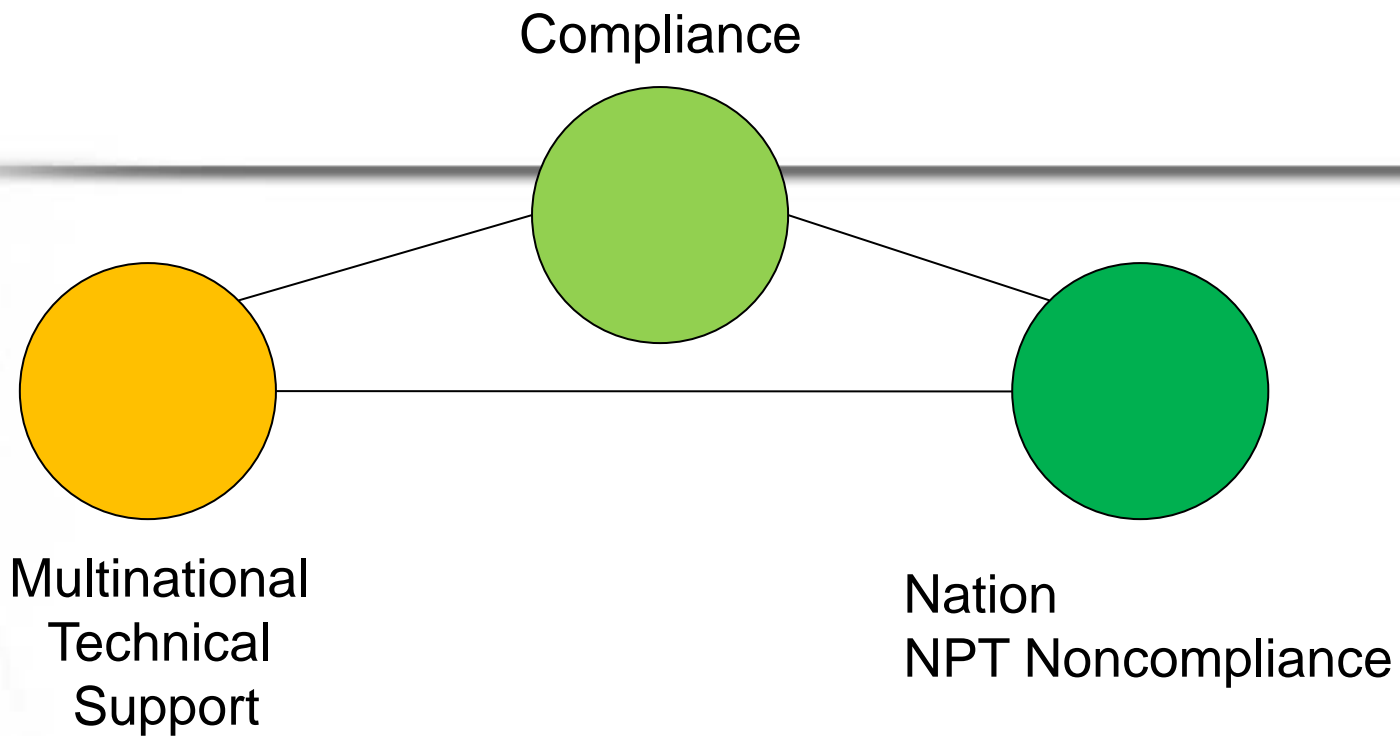




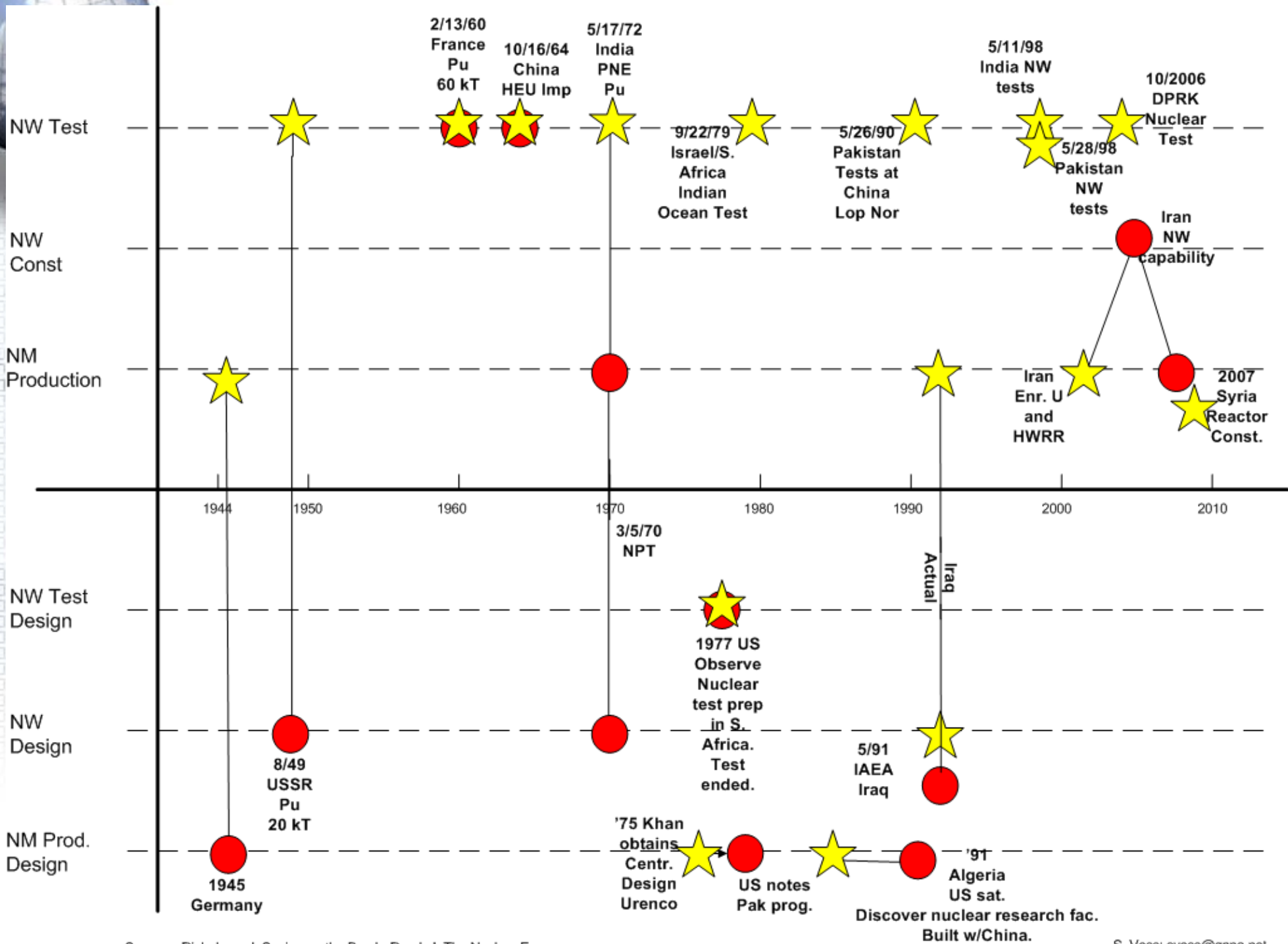
NPT Noncompliance: 2 Part Equation



- Historically for every country that choose to develop nuclear weapons under the guise of a nuclear research and/or a nuclear power program there is a country or countries that provides some level of technical support.
- Almost all countries denied that they were developing nuclear weapons while acquiring knowledge and technology before development was complete.



- To address the issue of NPT noncompliance and reach a new level of resolution both parts of the issue must be considered.
 - Key Questions:
 - What is the probability of getting caught? What happens if you are caught?



Sources: Richelson, J. Spying on the Bomb. Reed, J. The Nuclear Express.

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New Challenges

- IAEA evolving the role of nuclear safeguards
- Additional changes needed:
 - Predicted expansion role of nuclear power
 - Iraq, Libya, Iran, DPRK, and Syria covert nuclear programs
 - Global supplier to State level:
 - Sub-state – Khan network
 - Company
 - Individual
 - Concerns over transfers to international terrorism



MIT 1500 GWe High Growth Scenario Predicts NPPs in 58 Countries



States with NPT Noncompliance

- 3/10/09 US Annual Threat Assessment:
 - Iran has the scientific, technical, and industrial capacity eventually to produce nuclear weapons.
 - only an Iranian political decision to abandon a nuclear weapons objective would plausibly keep Iran from eventually producing nuclear weapons—inherently reversible.
 - Iran does not currently have a nuclear weapon.
 - Iran probably has imported at least some weapons-usable fissile material.
 - (<http://armed-services.senate.gov/statemnt/2009/March/Blair%2003-10-09.pdf>)
- Iran
 - Pre-90's US research reactor and nuclear training
 - '90 China
 - Calutron
 - Research reactors
 - Zr fabrication plant
 - Uranium conversion facility
 - '95 Russia
 - Bushehr NPP
 - Nuclear training
 - Laser enr- cancelled
 - '87 - Pakistan Khan
 - Uranium enrichment



Iran Discrepancies

- IAEA has continually identified major discrepancies within Iran's nuclear program
- Russia and China provide nuclear support to part of the program.
 - Both countries oil/gas agreements and sell of military hardware.

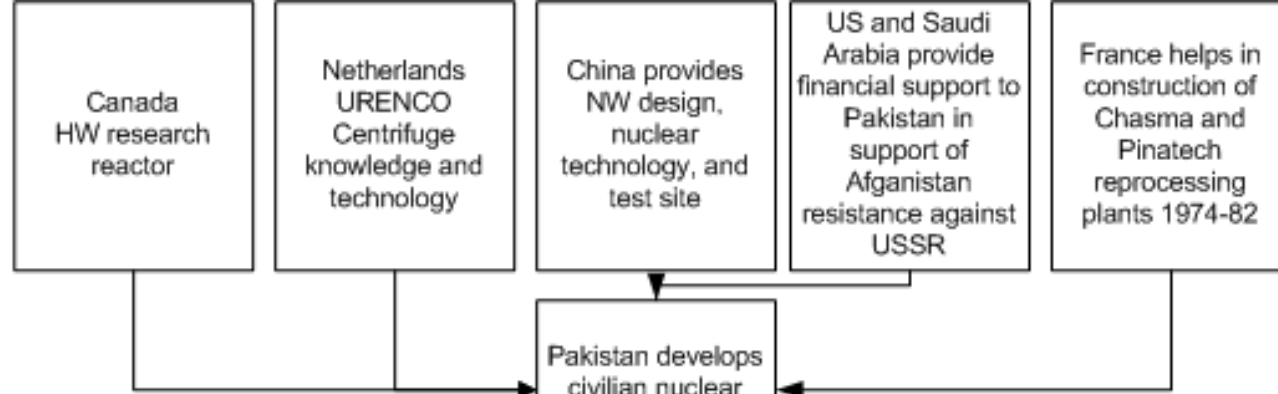




Syria

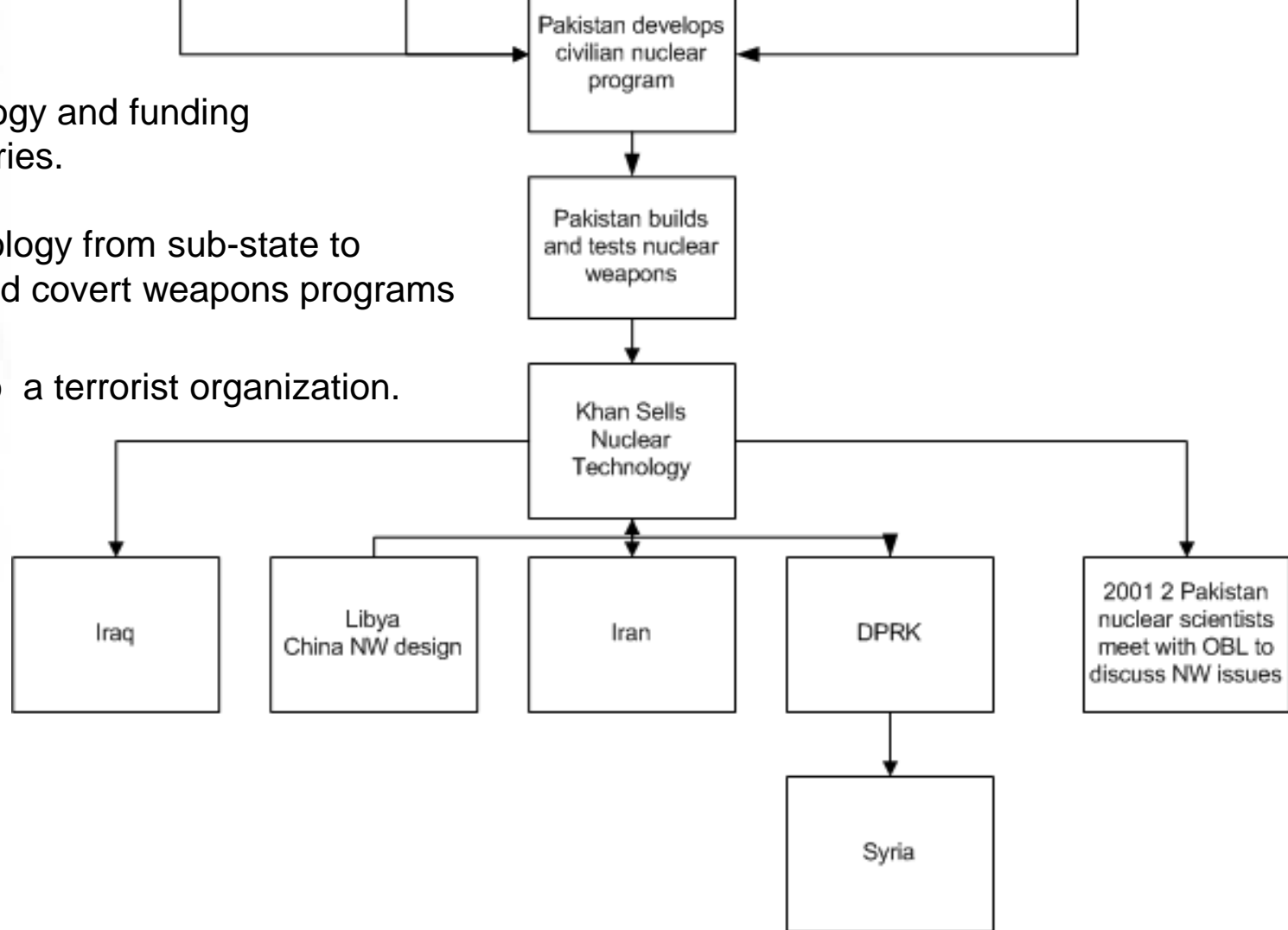


The Al Kabir Reactor
D. Albright and P. Brannon
5/12/08
http://www.isis-online.org/publications/syria/SyriaReactorReport_12May2008.pdf



Pakistan Non-NPT

- Received technology and funding from multiple countries.
- Transferred technology from sub-state to States that have had covert weapons programs
- And information to a terrorist organization.





International Sale of Nuclear Technology Transfer

- Nuclear technology
 - Political alliances and influences
 - Large-scale technology
 - Supports education, R&D, manufacturing.
 - National prestige
 - Russia Putin marketing nuclear capability
 - Competitive business
 - Germany agrees not to rebuild Bushehr – Russia steps in
 - Used for regional influence



Global Transitions

- Global transitions are happening faster.
 - Impact nations decisions whether or not to pursue nuclear weapons and
 - Whether or not nations with nuclear technology will support the transfer to non-weapon states.
 - Bi-polar:
 - US and USSR
 - Establishing alliances and agreements
 - Uni-polar:
 - US – “regime change”
 - NWs provide a means to stand against a larger power militarily.
 - » India’s quote: Bhabha “atomic weapons give a State possessing them in adequate numbers a deterrent power against attack from a much stronger State.”
 - » Transfer of technology between Sub-state organization Khan and State organizations including Iran, Libya, and DPRK. Enemy of my enemy...
 - Is multi-polar next?
 - What will be the impact?



Risk from Government Changes

- Changes in government can directly affect a nations decision on issues of nuclear weapons and nonproliferation:
 - South Africa
 - China
 - Iran
- Governmental changes also affect nuclear security and nuclear diversions:
 - Materials: Russia, Kazakhstan, Georgia
 - Expertise: Germany, South Africa, Russia
- Economic downturn can cause changes within a governments policy.



USSR Transition

- Diversions
 - 1992 – 2007 18 IAEA cases SNM; NTI adds 6 more.
 - 18 out of 23 cases in the material reportedly originated from Russia.
 - ~39 kgs HEU and ~369.4 gms Pu Russia
 - ~57 sites with HEU & ~12 sites with Pu
 - ~1200 MT HEU and ~135 MT Pu were in NW and dismantled, ie, transported, handled, packaged, processed, etc.
- Concerns that nuclear knowledge and technology transferred
 - State or Substate
 - Company
 - Individual level



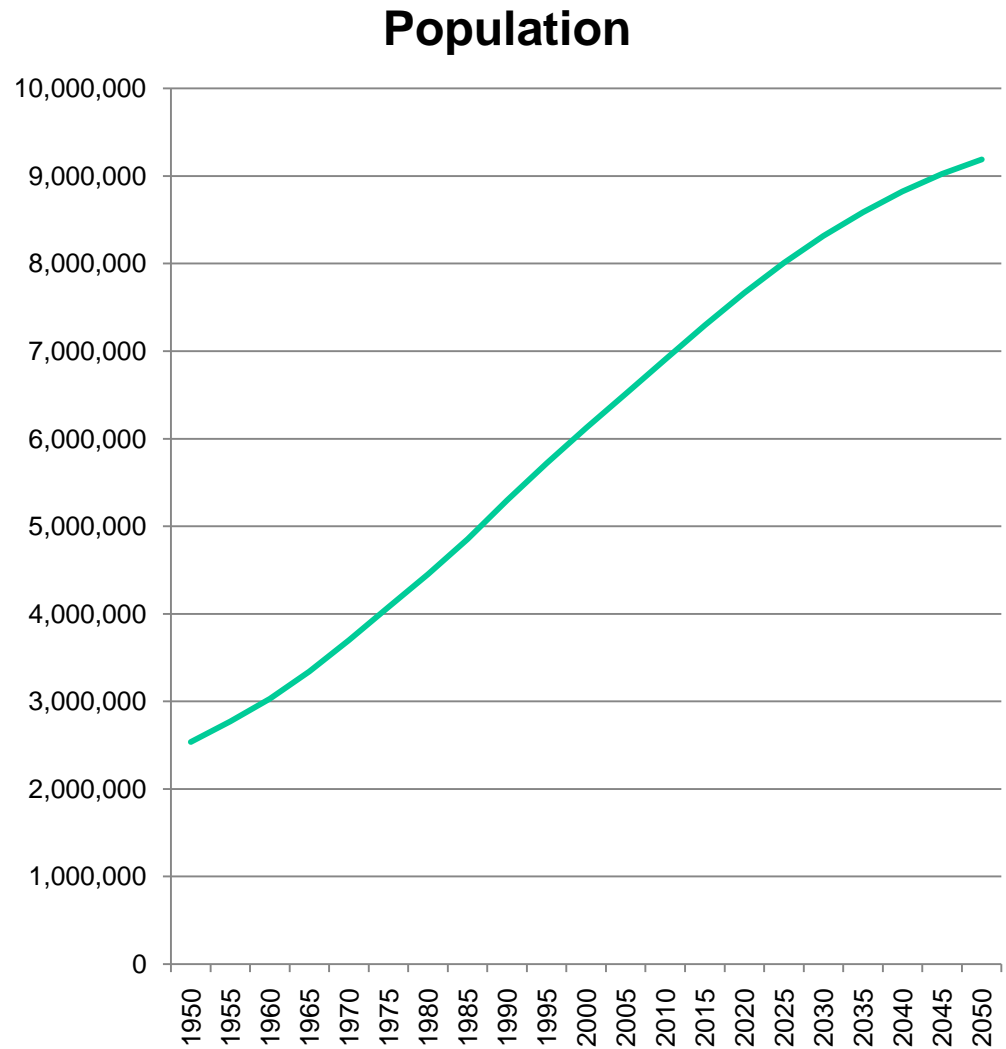
Global Economic Crisis

- According to the March 2009 Intelligence Community Annual Threat Assessment:
 - “the primary near-term security concern of the US is the global economic crisis and its geopolitical implications.”
 - “Roughly a quarter of the countries in the world have already experienced low-level instability such as government changes because of the current slowdown.
 - “Statistical modeling shows that economic crises increase the risk of regime-threatening instability if they persist over a one to two year period.”
 - » Decrease in oil prices...”may put the squeeze on the adventurism of producers like Iran and Venezuela.”
- Will the global economic crisis impact the decision of one nation to develop NWs or another to provide technology or nuclear materials?
- Or impact the ability of a nation to secure their nuclear materials?



Global Economy

- US Threat Assessment
 - At State level WMD constrained by the logic of deterrence and diplomacy.
 - Terrorist groups are less constrained by the above.
 - Technologies, especially dual use, circulate easily in today's economy.
 - As do individuals with scientific expertise.
- Information easier to store and transfer.





Nuclear Weapons Deterrence

- Does the presence of nuclear weapons limit the level of military aggression limited between nations such as India and Pakistan?
- Nuclear weapons line that is hard to cross.
- The greater fear is what happens if they are diverted or transferred to:
 - Sub-state
 - Terrorist Organization
- Reportedly Mumbia had Pakistan ISI coordinating.
- 2004 Chechen attack on Beslan uprising.



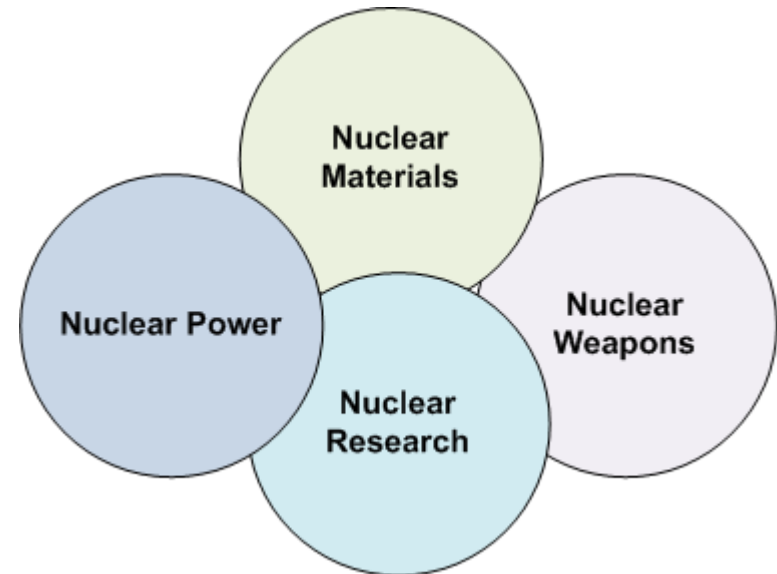
1952 US Ivy Mike Test

<http://nuclearweaponarchive.org/Usa/Tests/>



Rapidly Changing World

- Live in a complex world where the balance between
 - the needs, alliances and security of each nation is defined in part within their region and
 - the international community.
- Global inter-dependency
 - Issues on finance, trade, global climate change, energy, water, population, etc.





Lessons of the Past

- Nations that have developed and maintained nuclear weapons
 - **Denied** nuclear weapons development while pursuing expertise, equipment, facilities, and manufacturing capability.
 - Each nation received **support** from other nations pursuing regional, ideological, or technical transfers.
 - Programs were revealed at point of testing or after the programs were cancelled.
- PBS Summary:
- TN NW States: US, UK, Russia, China, France
- Atomic State: India, North Korea, Pakistan
- Suggested NW programs: Algeria, Brazil, Egypt, Iran, South Korea, Syria
- Ended Weapons Research: Argentina, Australia, Romania, Spain, Sweden, Switzerland, Taiwan, Yugoslavia
- Program Dismantled: Iraq, Libya, South Africa



Summary

- Expanding global population growth, economy, and expansion of nuclear power
 - Will it be possible to enforce NPT compliance if nations provide nuclear technical support?
 - Balance role between international agencies and individual nations rights
 - Global economy may support increased openness – Libya, South Africa
 - Multipolar world
 - Will it engender greater reliance between nations
 - Will it engender a sense of each nation against another?
 - Support to IAEA and advancement of technology needs to be increased
 - IAEA fuel bank – limit concerns over fuel cycle
 - Expansion beyond the additional protocol important
 - Time, money and politics.



Summary

- Changes in government impact
 - Decisions to develop or end NW-related efforts
 - Impact nuclear security and trends in nuclear diversions
 - Possible transfers to Substate or terrorist organization