



## Threat Convergence: New Pathways to Proliferation? Expert Series

### Emerging Nuclear States and Possible Terrorist Acquisition of Nuclear Weapons

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The acquisition of nuclear weapons and weapon-usable materials by North Korea, and the looming prospect of a nuclear Iran, pose a series of difficult policy challenges for the United States and other countries. The risk of instability and conflict in both East Asia and the Middle East will continue to increase as a result of proliferation, as will the subsequent demand for nuclear weapons in the affected regions and beyond. American security interests are undermined by nuclear weapons in the hand of either state, and the commitment of the United States to protect its friends and allies in the face of a nuclear-armed adversary will be increasingly questioned, if not actually reduced, as a result of their proliferation.

Among the many consequences of nuclear proliferation to North Korea and Iran, perhaps the most difficult to address is the risk that North Korea or Iran might choose to share their nuclear assets with terrorist or sub-national groups. Acquisition of nuclear materials and capabilities by these states also increases the risk that sub-national terror groups will be able to gain access to nuclear capabilities through theft or diversion (this is also the case in existing nuclear weapon states such as Pakistan and the former Soviet Union).

#### **Assessing Risk**

How to assess the risks that sub-national groups might acquire nuclear capabilities through either North Korea or Iran? Such a question may be the hardest factor in the proliferation continuum to address and quantify. Recent history is not encouraging; allegations about the terrorist-proliferation connection in Iraq turned out to be well off the mark. Equally worrisome is that today's security environment continues to push worse case analyses into the mainstream. Also, part of the challenge in dealing with North Korea and Iran as proliferation and security problems is our fundamental lack of insight into their governmental and security operations.

This "black box" problem tends to further skew threat assessments to negative extremes in efforts to sufficiently bound the problem and assess risk. Thus, a serious risk exists that officials and analysis will exaggerate the level of risk on the issue of state to non-state transfer. Yet, because the danger of transfer exists at some level and because the consequences of a nuclear-armed sub-national group would be catastrophic, the risk of state to non-state proliferation from Iran and North Korea cannot be ignored and must be given a high priority.

It is a tautology to say that without the existence of nuclear capabilities by states, the risk of nuclear terrorism stemming from them would not exist. But beyond that simple binary reality, it is hard to objectively assess the risk that terrorists groups will “go nuclear” with the help of these two states. All states possessing nuclear weapons and weapon-usable materials and technology could *potentially* be of assistance to sub-national groups seeking such weapons; some willingly and directly, and others without their knowledge or intent. But not all states are as likely as others to provide such support or are likely targets of undercover efforts to steal such assets. There is little concern that states like France or the United Kingdom will transfer their nuclear capabilities, and there is a relatively low risk that their nuclear materials and assets will be acquired through theft or diversion.

Many factors will have to be considered in assessing these risks state by state, including the nature of the state, its strategic objectives, its past behavior, the way in which it controls and manages its nuclear capabilities and the manner in which it has pursued and controls its nuclear assets. More broadly, the risks of a state to non-state transfer of nuclear capabilities can be broken into two major possibilities: 1) a sub-national state being given such assets with the knowledge of the central command authority of a country (authorized transfer); and 2) a sub-national group gaining access to such capabilities without permission through theft or diversion (unauthorized transfer).

### **Authorized Assistance from a State with Nuclear Capabilities**

Would a country willingly provide a nuclear weapon to a sub-national group? As noted above, such a development is only possible when a state actually possess such assets. But assuming a country has acquired a basic capability to produce nuclear weapon-usable materials, how can the risk that they will transfer them be assessed? There are no documented cases of a state knowingly transferring a nuclear weapon or a nuclear capability to sub-national groups. State-to-state proliferation has a more detailed history with Russia reportedly having assisted China’s development of a nuclear weapon, and China widely believed to have transferred both a design an actual weapon to Pakistan. The United States and United Kingdom also cooperated in the development of the first nuclear weapons and cooperation between the nuclear establishments continues.

The evidence of states assisting non-national proliferation is much thinner. It has been widely reported that Al-Qaeda operatives (and possibly even Osama Bin Laden himself) met with two Pakistani nuclear scientists in Afghanistan before the 9/11 attacks. Crude nuclear schematics were also found in safe houses in Afghanistan, according to press reports. Elsewhere, Russian officials have reported that Russian facilities containing nuclear materials have been monitored by “terrorist” organizations.

Beyond these and similar media reports (which as they are repeated will take on more and more validity), there are no documented instances of nuclear-states helping terrorists to acquire nuclear capabilities<sup>1</sup>. This is in contrast to the sizable evidence about states seeking nuclear capabilities through the black market or direct theft or purchase states with nuclear assets. Ample evidence suggests that sub-national groups have or are seeking nuclear weapons.

As noted above, the danger about the possible links between states of concern and terrorist groups has been overstated in the recent past. The allegation that Iraq and Saddam Hussein would willingly transfer weapons of mass destruction to terrorists groups was a major rationale behind the US decision to invade Iraq. President Bush's 2003 State of the Union Address included the caution that Americans should "Imagine those 19 hijackers with other weapons and other plans—this time armed by Saddam Hussein. It would take on vial, one canister, one crate shipped into this country to bring a day of horror like none we have ever known."

This quote and concern, however, was in contrast with the findings of the now infamous 2002 NIE on Iraq's weapon programs and intentions, repeated below:

- Baghdad for now appears to be drawing a line short of conducting terrorist attacks with conventional or CBW against the United States, fearing that exposure of Iraqi involvement would provide Washington a stronger cause for making war.
- Iraq probably would attempt clandestine attacks against the U.S. Homeland if Baghdad feared an attack that threatened the survival of the regime were imminent or unavoidable, or possibly for revenge. Such attacks--more likely with biological than chemical agents--probably would be carried out by special forces or intelligence operatives.
- The Iraqi Intelligence Service (IIS) probably has been directed to conduct clandestine attacks against US and Allied interests in the Middle East in the event the United States takes action against Iraq. The US probably would be the primary means by which Iraq would attempt to conduct any CBW attacks on the US Homeland, although we have no specific intelligence information that Saddam's regime has directed attacks against US territory.
- Saddam, if sufficiently desperate, might decide that only an organization such as al-Qa'ida--with worldwide reach and extensive terrorist infrastructure, and already engaged in a life-or-death struggle against the United States--could perpetrate the type of terrorist attack that he would hope to conduct.
- In such circumstances, he might decide that the extreme step of assisting the Islamist terrorists in conducting a CBW attack against the United States would be his last chance to exact vengeance by taking a large number of victims with him.

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<sup>1</sup> The full extent of the A.Q. Khan network has not been publicly detailed, and there is always the risk that the network provided some capabilities to such groups.

Under this assessment, the risk of transfer by Iraq to a sub-national group not under Iraq's direct control increased as the sense of threat perceived to the regime increased. In the end, the lack of any WMD in Iraq made these concerns mute, but the logic behind a state's motivations to transfer unconventional weapon capabilities appears sound. Concerns about the integrity of the NIE and its contents could also lead to questions about its accuracy in areas related to transfer to non-state actors. In the end, however, such assessments are likely to be heavily case-specific as different states, regimes and leaders will likely have different value calculations on such issues.

When one considers the behavior, interests and growing capabilities in North Korea and Iran, there are serious causes for concern. North Korea's active marketing of ballistic missiles and conventional arms to other states raise serious issues about possible transfers of WMD-related capabilities. While not conclusive, there is also evidence that North Korea was an active link in the A.Q. Khan nuclear black market, which raises questions Pyongyang's potential willingness to engage in WMD-related transfers. North Korea, however, is also known to have possessed chemical weapons for many years with no reported instances of them offering or selling such weapons to states or other clients.

It is unclear why, or even if, Kim Jong Il makes a distinction between conventional and non-conventional weapon sales, but to date the evidence suggests that there is a barrier in North Korean thinking to transferring such weapons. At a minimum, it would suggest that the profits (financial or political) to be made from such a sale do not justify the risks to the regime, or at least have not until this point in time. North Korea has possessed nuclear capabilities for more than two decades with no confirmed record of having made any transfers to others, state or non-state; hints at the possible sale of nuclear materials made by North Korean officials were possibly designed to increase negotiating leverage.

The link between North Korea and sub-national groups is another potential indicator of risk. In the past, the DPRK used a variety of non-conventional means to pursue its political goals, including assassination of South Korean leaders and politicians, abductions of Japanese, etc. Most of these included reliance on North Korean para-military operatives. It appears from the unclassified evidence that Pyongyang's main connection with terrorist activities is indirect through its sales of equipment to states that are themselves state sponsors of terrorism.

Moreover, in the past few decades, North Korean behavior has moderated and its reliance on such tactics to secure its position has diminished. The lack of current active links with militant sub-national groups suggests that North Korea is not a prime candidate to transfer sensitive technologies for ideological purposes. Sales for financial gain are far more likely. However, any evidence about reinvigorated links between North Korea and terrorist organizations would increase the risk of possible transfers of nuclear assets.

Iran is a much more problematic case. Iran is a leading state sponsor of terrorist activity and is actively involved in major terrorist activities and groups. It is directly implicated through its support for Hizbollah and Hamas, as well as with attacks on civilian targets worldwide over the past several decades. In relative terms, Iran would appear to be a more likely candidate to facilitate the provision of nuclear capabilities to a terrorist group.

In absolute terms, however, the risk is hard to quantify. Of particular concern are the possible messianic views of certain elements of the Iranian leadership, including those of its President (who has limited power in Iran) Mahmood Ahmadi-Nejad. The political affinity between the leadership in Iran and terrorist groups with extreme violent ambitions is a serious concern, to say the least.

A key challenge in the case of Iran is the way power is distributed and diffused within the country. There is an official government, with power in the hands of elected and appointed leaders, and there is an unofficial government, accountable to know one and prone to corruption, power abuses and extreme ideology. This split nature of government in Iran raises serious concerns about the ability of the national command authority (NCA) to adequately control any of its military assets, including possibly one day nuclear weapons.

The illegal trading of conventional weapons, oil, and most commodities in Iran should sound alarm bells about the ability of the NCA to ensure that nuclear assets and technology are adequately controlled. Even if the NCA could be deterred from transferring unconventional capabilities to sub-national groups, it does not mean that other power brokers within the system, whether motivated by greed, power or ideology, would not be able to willing to engage in such transfers.

The nature of the connection between such groups and Iran is also one that should cause serious concern. The link between sub-national groups and the state of Iran is not thought to run through any official channels, but through parts of the shadow government in Iran which include the elite military units and the secret and intelligence services. Some of the “agencies” are not fully responsive to the central government and form power centers of their own. As such, any possible nuclear cooperation might not be full controlled or accountable to the central government, including even possibly the Supreme Leader. Here again, the lack of a full understanding of internal Iranian workings raises risks that may not exist, but the lack of full and formalized control creates at least the risk of transfers taking place without the full knowledge of consent of all parts of the Iranian government.

A further concern in the case of Iran, as compared with that of North Korea, is ideology. To the extent North Korean actions are accurately understood, they are largely driven by pragmatic security concerns—survival of the state, projection of power over South Korea, manipulation of public opinion in neighboring countries, increasing freedom of action, and so on. In the past, these motives may have included expansion of Stalinist-style ideology, but little of this broader ambition remains visible in North Korea behavior. Iran, however, is a different case.

Beyond the issues of internal security, regime survival and the like are broader ideological goals related to the expansion of Shiite influence and the reassertion of Muslim primacy. In addition, there are some who believe that President Ahmadi-Nejad and other more passionate parts of the Iranian government are driven by messianic and even apocalyptic ambitions. While the more extreme of these assessments appear far fetched, it does suggest that the mix of motives and possible desire to use nuclear weapons by Iran may be more complex and harder to prevent than in the case of North Korea.

## Theft or Unauthorized Access from a State with Nuclear Assets

Beyond direct transfers, another important consideration is the extent to which nuclear-armed states with terrorist connections *and* terrorist groups with connections to nuclear-armed states are likely to behave. Countries upon gaining nuclear capabilities often seek to exercise greater freedom of action, and it is likely that North Korea and Iran will seek to make use (politically, if not militarily) of their nuclear status.

The challenge is not only to prevent the transfer of nuclear assets to non-state groups, but also to ensure that the acquisition of nuclear assets does not encourage states to prompt more aggressive behavior by their non-state partners. Perhaps even more difficult is preventing non-state groups from taking greater liberties without the direct consent of their sponsoring states. Groups having less to lose than states may be more interested in pressing the perceived nuclear advantage of their sponsor states. It would not be hard to imagine a situation in which a group like Hizbollah became even more aggressive, believing that Iran would be protected against any strong response by their growing nuclear capability.

The risk of theft or non-authorized diversion from state arsenals is also a serious security concern in North Korea and Iran. This problem is by no means limited to the two countries, as over 50 countries around the world possess nuclear facilities and materials with possible use by sub-national groups intent on gaining nuclear capabilities. However, the two case discussed here have some unique implications.

In the case of North Korea, the oppressive nature of the state may be an advantage in preventing unauthorized access to materials. North Korea is an absolute police state where the entire society is tightly controlled. The movement of people and goods, travel, trade and commerce are all restricted and monitored by the government. While different factions are thought to have influence over the actions of the leadership, the authoritarian and united nature of the government is able to control actions by the state. In addition, the nature of Korean society, with strong respect for authority also can serve as a bulwark against nuclear theft. Thus, the two most likely vectors for nuclear theft—insider acquisition and transmission and outside infiltration and removal—should be considered as fairly remote.

The risk that a group of motivated insiders could obtain sensitive materials and try to pass them to others, however, cannot be completely discounted. The lack of modern nuclear material protection, control, and accounting methods in North Korea means that the risks for such possible diversions are higher than they should be. Moreover, risks of regime collapse or internal conflict are made more serious by the existence of a nuclear capability. Post-collapse (post conflict) scenarios in a nuclear-armed state are fraught with complication, including some that could lead to loss of control over nuclear assets.

As discussed briefly above, Iran presents a different set of challenges from those of North Korea. Iran is not by any means a police state. Travel within the country is not tightly controlled and movement of people, goods and information is common; this mobility, combined with the multi-tiered nature of control and power within Iranian society, creates a serious risk that nuclear assets could be acquired and transferred without the explicitly consent of the NCA. Iran's nuclear activities were kept secret from the International Atomic Energy Agency for almost two decades.

While it is not known for sure, it is also possible that the full nature of its activities were kept from parts of the government itself. The secret nature of its activities, combined with the diffused nature of power within the country, raises the possibility that nuclear assets and capabilities may exist beyond the control of some portions of the formal government structure. Moreover, it raises serious concerns about the nature of control and responsibility within the facilities themselves. Access within nuclear facilities appears not to be tightly controlled and the lack of modern MPC&A procedures raises serious risks about unauthorized or illicit transfers of information, materials and technology.

Even beyond the basic realization that any state with nuclear capabilities is a risk in terms of the potential transfers of such assets, Iran and North Korea appear to be of particular concern. Iran, for a number of weapons, appears to be an even greater problem than North Korea, given the loose nature of government control and its existing connection to terrorist group and extreme approaches to affecting international policy. Yet, while North Korea appears content for now to focus on state survival, this priority could change at anytime, as could the nature of the state and the people at the top of the system. Thus, considerable work remains to be done to understand the priorities of the government and the factions within it, and in developing tools to affect the internal behavior of the state as they relate to control of their nuclear assets.

## **Responses**

How can states reduce the danger that a sub-national group might acquire nuclear capabilities from states, especially from North Korea and Iran? Clearly, the United States and collections of states to date have been unable to prevent these two states from pursuing nuclear capabilities. This in turn raises serious questions about the ability of outside powers to prevent a motivated state from passing such capabilities to such groups. The only way to prevent such a possibility is to prevent the acquisition of nuclear assets in the first place. However, even if such efforts fail, tools can be applied to reduce the risks of any transfers—authorized or otherwise.

## **Deterrence**

As witnessed in the immediate aftermath of the October 2006 nuclear test by North Korea, the United States relies primarily of rhetorical deterrence to address the risk of nuclear transfers. President Bush's oval office statement in response to the nuclear test was a deterrent-based remark. He stated that "the transfer of nuclear weapons or material by North Korea to states or non-state entities would be considered a grave threat to the United States, and we would hold North Korea fully accountable of the consequences of such action."

Are such statements credible? A lot of material has been produced in the past few months on the issue of nuclear forensics—the ability to track nuclear material or event back to the state of origin. While there are considerable limits to the current capabilities in this field, improvements in the ability to determine the source of any nuclear material—even after a nuclear detonation—would be useful. At the very least, creating the impression that a nuclear event could be traced would enhance the value of deterrence. That being said, there will always be doubts about the reliability of such approaches and great risks in relying on only one means for nuclear attribution. The inability to obtain samples from all sources of nuclear materials, and the natural variations in nuclear reactors and uranium deposits, make absolute certainty impossible to obtain. The consequences for wrongly targeting a country in response to a nuclear attack are difficult to imagine.

Thus, even without the issue of attribution, a key for deterrence to work in these cases is for the United States to maintain credible military and political capabilities that make clear its ability to respond to any such transfer. The fine art of tuning a deterrent relationship takes years to master and requires a good line of information about the state one is seeking to deter. This suggests that for both cases, the United States and its allies have a significant amount of work to do in improving its understanding of political motives and decision making.

## **Prevention**

All states have an international legal responsibility to ensure that nuclear materials in their control are adequately protected from theft and diversion. While such measures would do little to prevent the authorized transfer of materials, the means does exist to help states prevent the unauthorized access and transfer of nuclear weapons and materials. The United States and other countries through the G-8 Global Partnership to Prevent the Proliferation of Weapons and Materials of Mass Destruction have extensive experience in helping other states improve the security and accounting of nuclear materials. The history of cooperative threat reduction assistance in the former FSU alone is extensive and demonstrates that even among former nuclear adversaries, much can be done to reduce the risk of nuclear theft.

It would be extremely difficult, however, for the United States to engage in such cooperation with either of the states in question. The lack of formal diplomatic contacts with North Korea and the deep suspicion and hostility with Iran make it unlikely that the United States will be invited any time soon to assist these two states in securing its nuclear assets. Moreover, any country moving to assist these states more securely control their nuclear assets would further condone their pursuit and possession of nuclear capabilities in violation of international law and non-proliferation norms. That being said, the recent decision by the United States to pursue nuclear cooperation with India should force policy makers to consider when it might be appropriate to acknowledge that efforts to prevent the proliferation to states have failed and to take steps to reduce a risk of nuclear theft, even with states hostile to US interests.



In the case of Iran, however, there are other options. The IAEA is fully capable of providing member states with assistance in the field of MPC&A and nuclear security. Moreover, with the passage of UNSC resolution 1540, all states have a responsibility to “develop and maintain appropriate effective physical protection measures” to prevent the proliferation of nuclear weapons.

To the extent that the international community is prepared to accept Iran’s possession of any nuclear capabilities, it has options to require Iran to maintain strong internal security measures to help prevent unauthorized access to sensitive materials or capabilities. This would have little value in preventing authorized transfers, or over facilities outside of unknown to the government or outside of IAEA safeguards. However, such measures might help address one side of the sub-national group problem in Iran by establishing modern MPC&A procedures.

Such options are not open to North Korea, with the state having withdrawn from the NPT and no longer engaged in technical cooperation with the IAEA. Assistance from other states, such as China and Russia is possible should policy makers decide the risks of theft or diversion from North Korea be are enough to warrant such cooperation.

## **Interdiction**

The United States has led the international effort to develop the Proliferation Security Initiative (PSI). This laudable and useful activity is designed to coordinate international efforts to identify and interdict shipments of illicit and dangerous materials related to proliferation. As a tool, the PSI can be useful in both deterring transfers and complicating efforts by states to engage in such commerce. However, the PSI has serious limits due to its organization and the nature of WMD technology.

Not fully grounded in international law, the PSI activities are limited to the national territory, waters and airspace of cooperating countries. As such, shipments transiting international waters are not legally covered by PSI operations. More importantly, perhaps, is the simple reality that one nuclear weapon’s worth of plutonium or highly enriched uranium weighs less than 50 pounds (in some cases much less) and can sit into a shoebox. When one considers the challenges in detecting, tracking and seizing such a small container, the limits of interdiction efforts become obvious.

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