

North Korean Nuclear Crisis: Options for South Korea

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Abstract

From South Korea’s perspective, North Korea’s nuclear problem poses one of the most serious stumbling blocks to its peace and prosperity policy toward the North. One of the simplest strategies to defend North Korea’s WMD threat is to cope with traditional military deterrence. Most of the military measures to press North Korean regime did not achieve a noticeable success. Hence, it is a time to formulate a novel approach toward North Korea’s nuclear issues.

South Korea should actively support international nonproliferation regime. It must be emphasized that a complete denuclearization of the Korean peninsula is a first premise toward a peaceful unification. A selective engagement, supported by credible conventional and nuclear deterrence, can be another option to deal with North Korean nuclear issue. Compared to these approaches, a cooperative threat reduction approach can provide a safer solution to North Korean nuclear issue. To apply a cooperative threat reduction approach to North Korean case, minimum political-military confidence among North Korea, South Korea, and the United States may be a prerequisite. Once such mutual trust is set in, the next step is formulating an acceptable incentive for North Korea in return for giving up its WMD ambitions. South Korea should take a lead in organizing international consortium to promote economic assistance to North Korea.

Keywords: North Korean nuclear crisis, South Korea’s approach, non-proliferation, cooperative threat reduction

Introduction

Among the many security issues South Korea faces today, none seems more appalling than North Korea's nuclear issue. The North Korean nuclear crisis is not new: a decade ago, the Korean peninsula experienced a crisis that barely fell short of war because of North Korea's nuclear weapons program. The crisis avoided a crash landing through the Geneva Agreed Framework in 1994, by which the United States and North Korea agreed to freeze Pyongyang's nuclear program in exchange for providing heavy fuel oil and building light water reactors for North Korea.

But since October 2002, the nuclear specter has returned to the Korean peninsula. In October 2002, the Assistant Secretary of State for Asia and the Pacific, James Kelly, visited Pyongyang to explain the Bush administration's policy. At this meeting, Kelly stated that the United States had obtained information that, starting in the late 1990s, the DPRK (Democratic People's Republic of Korea, North Korea) covertly acquired uranium enrichment technology for nuclear weapons. Events began to spiral downward immediately after that meeting. The following month, the United States, Japan, and South Korea voted that KEDO suspend further shipments of heavy fuel oil to DPRK. On January 10, 2003, the DPRK announced its withdrawal from the NPT and stated that it was no longer bound by its IAEA safeguards agreement. Later, on February 10, 2005, North Korea announced for the first time that it possesses nuclear weapons.

The spread of weapons of mass destruction rapidly became a top international security issue following the September 11 terrorist attacks, and has added a sense of urgency to controlling their proliferation. WMD, or weapons of mass destruction, is a collective term that generally refers to three classes of weapons systems: nuclear, biological, and chemical (NBC or ABC). These weapons are clearly distinguished from conventional weapons in the way they destroy both human life and establishments. As early as 1948, the United Nations introduced the term "weapons of mass destruction" and defined them as "atomic explosive weapons, radioactive material weapons, lethal chemical or biological weapons, and any weapons developed in the future which have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above." Weapons of mass destruction severely complicate calculations of aggregate military capabilities, while their great potential destructiveness makes their control more pressing (Tulliu and Schmalbergr 2003, 9).

Since the September 11 terrorist attacks, the term has increasingly come to acquire new, more comprehensive attention from the international community. In East

Asia, North Korea particularly poses a grave threat not only to South Korean security but to the peace and stability of the region. Since the second nuclear crisis began on October 2002, preventing North Korea from arming itself with WMD capabilities has become a top international security issue. South Korea has long been concerned about North Korea's nuclear programs because they pose a direct threat to the whole Korean peninsula. South and North Korea have been engaged in various arms control negotiations with no outstanding results so far. Even after the historic summit in 2000, the North did not show any intent to give up its nuclear ambitions. In light of that development, this paper focuses on North Korea's nuclear program and examines South Korea's option to resolve the crisis through peaceful means.

North Korean Nuclear Weapons Program

North Korea's nuclear development program has a long history. North Korea maintains uranium mines with an estimated four million tons of exploitable high-quality uranium ore. Information on the state and quality of their mines is lacking, but it is estimated that the ore contains approximately 0.8% extractable uranium. In the mid-1960s, they established a large-scale atomic energy research complex in Yongbyon and trained specialists from students who had studied in the Soviet Union. Under the cooperation agreement concluded between the USSR and the DPRK, a nuclear research center was constructed near the small town of Yongbyon. In 1965 a Soviet IRT-2M research reactor was assembled for this center. From 1965 through 1973 fuel (fuel elements) enriched to 10 percent was supplied to the DPRK for this reactor (Moltz and Mansurov 2000, 15-20; IISS 2004, 27-32).

North Korea's modern nuclear weapons program dates back to the 1980s. In the 1980s, focusing on practical uses of nuclear energy and the completion of a nuclear weapon development system, North Korea began to operate facilities for uranium fabrication and conversion. They began construction of a 200 MWe nuclear reactor and nuclear reprocessing facilities in Daecheon (Taechon) and Yongbyon (Yeongbyeon), respectively, and conducted high-explosive detonation tests. In 1985, U.S. officials announced for the first time that they had intelligence data proving that a secret nuclear reactor was being built 90 km north of Pyongyang near the small town of Yongbyon. The installation at Yongbyon had been known for eight years from official IAEA reports. In 1985, under international pressure, Pyongyang acceded to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). However, the DPRK refused to sign a

safeguards agreement with the IAEA, an obligation it had as a party to the NPT.¹

Particularly since the early 1990s, the United States has been concerned about North Korea's desire for nuclear weapons and has assessed that the North has one or possibly two weapons using plutonium produced prior to 1992. In 1994, Pyongyang halted production of additional plutonium under the terms of the U.S.-DPRK Agreed Framework. The United States has assessed, however, that despite the freeze at Yongbyon the North has continued its nuclear weapons program. As the Agreed Framework has been virtually abandoned, the U.S. Central Intelligence Agency (CIA) conjectures that Pyongyang can resume production of plutonium substantially.

Despite various information regarding North Korea's nuclear capabilities, controversies remain over the exact status of its nuclear weapons program. The DPRK's plutonium stock and its means to produce and separate plutonium have been extensively studied. Prior to the restart of the 5 MWe reactor in early 2003, the DPRK had an estimated stock of roughly 30-40 kilograms of plutonium. With the restart of the 5 MWe reactor in early 2003, this stock has been growing at a rate of about 5-7 kilograms of plutonium each year. Unclassified reports, confirmed by commercial satellite imagery, indicate that the DPRK shut down the reactor in April 2005, likely to unload the fuel. At this time, the reactor is estimated to have contained 10-15 kilograms of additional plutonium, bringing the total plutonium stock to about 40-55 kilograms of plutonium. The plutonium must be separated from the irradiated fuel before it can be used in nuclear weapons. Prior to 2003 and the unfreezing of the Yongbyon site, the DPRK was estimated to have up to 10 kilograms of plutonium in separated form, although this estimate was a "worst-case" estimate subject to continuing scrutiny and controversy. This plutonium would have been separated in the Radiochemical Laboratory prior to about 1992. The worst case estimate was that the DPRK separated and did not declare to the IAEA about 8 to 9 kilograms of plutonium produced in the 5 MW reactor. Some U.S. intelligence agencies believed that the DPRK also separated and did not declare up to another 1 to 2 kilograms of plutonium produced in the Russian-supplied IRT research reactor at Yongbyon. Other intelligence agencies believed the amount of plutonium produced in the IRT reactor was no more than a few hundred grams. The IAEA also independently arrived at this smaller estimate. In any case, a reasonable estimate is that no more than about 10 kilograms of plutonium were separated prior to 1994, when the Agreed Framework froze all plutonium activities at the Yongbyon site (ISIS 2005).

Judging from these analyses, it is highly likely that North Korea has fabricated

¹ "North Korea, Nuclear Weapons Program," Federation of American Scientists website material (<http://www.fas.org>).

a preliminary model of a nuclear bomb. If this is true, then North Korea's nuclear weapons programs can have serious security implications for all countries surrounding the Korean peninsula. The North Korean nuclear problem is a multi-faceted problem with not only global implications for the non-proliferation regime and the global war on terrorism, but also regional and local implications for the security of Northeast Asia and the Korean peninsula.

On the global level, North Korea's nuclear program poses a serious challenge to the global non-proliferation regime. In October 2002, it came to light that North Korea was working on a secret nuclear program involving uranium enrichment. Since then, North Korea has cancelled its agreement on the continuity of safeguards, the minimal connection it had maintained with the IAEA, which included the stationing of two IAEA inspectors at the Yongbyon nuclear facility. Also, Pyongyang has announced its withdrawal from the NPT. All these developments meant that the international nuclear nonproliferation regime comprising the IAEA and NPT could not adequately check North Korea's further development of its nuclear program. From a global security perspective, the spread of nuclear material poses a completely new challenge.

Since the September 11 attacks, the United States has heightened concerns that fissile material may make its way from North Korea into the hands of terrorist organizations, connecting North Korea's nuclear issue with the global war on terrorism. North Korea's possession of weapons-grade plutonium may increase global proliferation risks, as it enhances its ability to proliferate this material to third parties. Envisaging such a nightmare, the Bush administration's national security strategy report claimed that the gravest danger lies at the crossroads of radicalism and technology. With the collapse of the Soviet Union and the end of the Cold War, the global security environment has undergone profound transformation. New deadly challenges have emerged from rogue states and terrorists. Although none of these contemporary threats rival the sheer destructive power that was once arrayed by the Soviet Union, the nature and motivations of these new adversaries, their determination to obtain destructive powers, and the greater likelihood that they will use weapons of mass destruction, make today's global security environment more complex and dangerous (White House 2002, 13-16).

On the regional level, the North Korean nuclear issue also poses serious repercussions. The North Korean nuclear issue is, in fact, something that primarily threatens the security of the whole Northeast Asia region. Because of such regional implications, the United States has decided to tackle the issue on a regional level through multilateral talks. It is in this context that Washington has tried to bring other

Northeast Asian nations into the six-party talks. However, members of the six-party talks do not always share the same concerns and priorities when it comes to the problem of North Korea. The fact that Pyongyang has been developing ballistic missiles as well as nuclear weapons has certainly brought about differing perceptions of the threat of the country's actions among the other parties to the talks. South Korea, for instance, does not see North Korea's *Nodoong* and *Taepodong* ballistic missiles as a major threat since these are medium to long-range weapons delivery systems. Also, North Korean missiles cannot currently reach all locations in the United States, and the current level of *Taepodong* deployment is insignificant compared with that of *No Dong*. For Japan, meanwhile, North Korea's nuclear threat is perceived in sync with the threat of its missiles. If the North achieves miniaturization of nuclear warheads, Japan will have to directly face the threat of nuclear missiles that can strike its territory.

While it is difficult to describe China and Russia as being threatened by North Korea's missiles, these nations are nonetheless quite concerned with its development of nuclear weapons, which has considerable impact on the security of the region as a whole. China sees the six-party talks as a valuable opportunity to press for the denuclearization of the Korean peninsula and the preservation of stability on the peninsula and of the North Korean regime. These six-party deliberations are in fact an extension of the talks between China, North Korea, and the United States held in late April 2003, and Sino-American bilateral relations are a prime factor in the larger grouping, along with the dynamic between Pyongyang and Washington. Furthermore, China believes that if it succeeds in getting North Korea to abandon its pursuit of nuclear weapons, it will boost its standing as a valuable strategic partner in regional security in the eyes of the United States. Chinese participation in the six-party talks appears to be rooted in these considerations ([Japan Institute of International Affairs 2005, 2-5](#)).

From South Korea's perspective, North Korea's nuclear problem poses one of the most serious stumbling blocks to its peace and prosperity policy toward the North. Upon its inauguration on February 25, 2003, the Roh Moo-hyun government launched an ambitious initiative aimed at creating a peaceful and prosperous Northeast Asia. The initiative, Northeast Asian Cooperation Initiative for Peace and Prosperity, can be defined as the nation's long-term strategy and vision for creating peace and common prosperity in Northeast Asia by shaping a new regional order based on mutual trust and cooperation.

The initiative is composed of three inter-related strategies: First, it is a regional strategy to establish a virtuous circle of peace and prosperity by fostering exchanges and

cooperation among countries in the region and laying the institutional foundation for a harmonious regional order and community-building. Second, it is an inter-Korean strategy to overcome the tragedy of national division and military confrontation and to construct a lasting peace regime on the Korean peninsula as a precondition to peace and common prosperity in Northeast Asia. Third and finally, it is a national strategy to secure the happiness and welfare of citizens by strengthening domestic competence and international competitiveness through innovations and reforms as well as enhancing internal harmony and unity among citizens.

The ultimate goal of the Northeast Asian Cooperation Initiative is to materialize a peaceful and prosperous Northeast Asia by fostering the governance of cooperation and building a regional community of mutual trust, reciprocity, and symbiosis. The goal is more than justified in view of developments in other regions of the world. Regional integration has become a worldwide phenomenon as a way to cope with the challenges of globalization or as a way to accomplish the globalization process more efficiently. Whereas Europe, North America, and even ASEAN are accelerating the institutionalization of integrative processes, Northeast Asia remains far behind. Thus, the initiative is designed to facilitate the process of community-building in economic and security domains. As both theories and experience demonstrate, nations can enjoy peace and common prosperity by constructing a community of their own. While a regional community benefits the nations in that particular region, a global community benefits nations all over the world. Globalization can be seen as a process of forming a global community to which all the regional communities in the world belong. Northeast Asian nations should join this process by building a regional community first.²

The North Korean nuclear crisis is the most serious challenge to the task of building a lasting peace on the Korean peninsula. Peaceful resolution of the crisis is the foremost goal as well as a crucial precondition to maintaining stable peace in Northeast Asia. The Roh government put a high priority on finding solutions to the North Korean nuclear crisis through diplomatic negotiations.

A major breakthrough in North Korean nuclear stalemate was reached at the fourth round of the six-party talks held in Beijing in September 2005. In a joint statement announced on September 19, six participating countries unanimously reaffirmed that the goal of the six-party talks is the verifiable denuclearization of the Korean peninsula in a peaceful manner. The DPRK committed to abandoning all nuclear weapons and existing nuclear programs and returning, at an early date, to the

² "Toward a Peaceful and Prosperous Northeast Asia: Northeast Asian Cooperation Initiative," Presidential Committee on Northeast Asian Cooperation Initiative, Office of the President, Republic of Korea, 2005, pp. 6-7, 14-15.

Treaty on the Non-Proliferation of Nuclear Weapons and to IAEA safeguards. The United States affirmed that it has no nuclear weapons on the Korean peninsula and has no intention to attack or invade the DPRK with nuclear or conventional weapons. The ROK reaffirmed its commitment not to receive or deploy nuclear weapons, in accordance with the 1992 Joint Declaration of the Denuclearization of the Korean Peninsula, while affirming that there exist no nuclear weapons within its territory. The six parties urged that the 1992 Joint Declaration of the Denuclearization of the Korean Peninsula should be observed and implemented. The DPRK insisted that it has the right to peaceful uses of nuclear energy, and the other parties expressed their respect for this assertion and agreed to discuss, at an appropriate time, the subject of the provision of light water reactor to the DPRK.³

The statement was viewed as a major breakthrough in the nuclear stalemate that has lasted more than past two years. Furthermore, the statement was welcomed because it opened the way for publicly discussing a more lasting system of peace on the Korean peninsula. The statement mentioned that the DPRK, Japan, and the United States would take steps to normalize their relations in accordance with the Pyongyang Declaration, on the basis of the settlement of **unfortunate past and the outstanding** issues of concern. The six parties also committed to joint efforts for lasting peace and stability in Northeast Asia. The directly related parties will negotiate a permanent peace regime on the Korean Peninsula at an appropriate separate forum. The six parties agreed to explore ways and means for promoting security cooperation in Northeast Asia. As such, the Beijing joint statement may be viewed as far more advanced than previous agreements between the six parties.

However, the very next day, from the release of the joint statement, North Korea said it would begin dismantling its nuclear program only if the United States provided a light-water reactor first for civilian power. The demand had the potential to threaten a day-old agreement between North Korea and the other five nations involved in nuclear disarmament talks. If North Korea continued with its LWR request, it potentially threatened the future of the six-party talks themselves.

Making things worse, the Bush administration raised the issue of counterfeiting—the so-called “super note” that was suspected of originating from the DPRK. According to a December 13, 2005, U.S. Treasury press release, North Korean government agencies and associated front companies are looking for financial institutions to launder money and conduct other illicit activities such as currency

³ For the text of September 19 Beijing Joint Statement, see U.S. Department of State press release at <http://www.state.gov/r/pa/prs/ps/2005/53490.htm>.

counterfeiting, narcotics trafficking, counterfeit cigarette smuggling and the financing of and involvement in weapons of mass destruction and missile proliferation. In September 2005, the Treasury Department found Banco Delta Asia, headquartered in the Macau Special Administrative Region of China, to be a financial institution of “primary money laundering concern.” Section 311 of the USA Patriot Act allowed the U.S. government to prohibit U.S. financial institutions from maintaining correspondent accounts for or on behalf of Banco Delta Asia. For over 20 years, Banco Delta Asia has provided financial services to North Korean government agencies and associated front companies that are known to have engaged in illicit activities. Investigations have also revealed that, among other things, Banco Delta Asia has serviced a multi-million dollar account on behalf of a known international drug trafficker.⁴ In response to the Bush administration’s initiative, Banco Delta Asia suspended most of its transactions related to North Korea. Understandably, Pyongyang reacted harshly against these measures and threatened to not return to the negotiation table unless Washington lifted financial sanctions against North Korea.

Such recent developments cast a gloomy shadow over the future of the six-party talks. The longer a solution is delayed, the more likely it becomes that North Korea will actually come to possess nuclear weapons. A nuclear-armed North Korea will be a nightmare to most countries of Northeast Asia.

Options for South Korea

There’s no doubt that the North Korean nuclear crisis poses a serious security challenge to South Korea. Obviously, one of the simplest strategies to defend North Korea’s WMD threat is to cope with traditional military deterrence. South Korea can rely on the U.S. nuclear umbrella to deter possible North Korean bluffs or coercion. Nuclear deterrence sends a direct message to North Korea that South Korea and the United States will retaliate massively if North Korea ever launches missiles or uses any other kind of weapons of mass destruction against South Korea. Deterrence as a foreign policy option is very effective, but in the case of nuclear deterrence, it may not be as credible or effective as massive retaliation by conventional military forces. In general, nuclear deterrence may be very threatening but is incredible; conventional deterrence is effective but cost-prohibitive (Perkins 2001). The cornerstone of conventional military deterrence is the strength of the ROK and U.S. alliance. For military deterrence to be successful, close policy coordination with the Bush

⁴ “Treasury Warns Against North Korean Money Laundering,” *Washington File*, 19 December 2005.

administration will become more important. South Korea needs to promote triangular diplomacy. Seoul needs to persuade Washington to offer realistic and acceptable alternatives for Pyongyang, cautioning that too much pressure on North Korea may aggravate the situation. And Seoul should warn the North that dragging on will not guarantee an advantageous situation, stressing that inter-Korean relations cannot improve as long as the North pursues weapons of mass destruction programs. It is especially important to dissuade Pyongyang from testing the will of the Bush administration, for example, by delivering nuclear materials to other states or terrorist organizations. In dealing with the North Korean regime, particularly against the backdrop of the second nuclear crisis, traditional military deterrence may not work, judging by past experience. Most of the military measures to press the North Korean regime did not achieve noticeable success. Hence, it is time to formulate a novel approach toward North Korea's nuclear issues.

Strengthening the Nonproliferation Regime

First of all, South Korea should actively support international nonproliferation norms and activities to bolster them. Roh Moo-hyun government should make it clear that North Korea's nuclear weapons are the single most serious obstacle to inter-Korean rapprochement and reconciliation. The Roh government should stress that, if the North does not give up its nuclear ambitions, there will be no genuine inter-Korean peace and prosperity. The two Koreas signed the Joint Declaration of the Denuclearization of the Korean peninsula in 1992, but it was never implemented.⁵ Since then, both sides only haltingly engaged in dialogue without taking further steps toward that goal. It must be emphasized that a complete denuclearization of the Korean peninsula is a first step toward a peaceful unification. Supporting international nonproliferation regimes will also be seen as a warning signal toward China's growing arsenal of weapons of mass destruction.

South Korea's position on a nonproliferation regime is straightforward. Recently a high-ranking South Korean official emphasized that South Korea will support a NPT regime. In a statement at the 2005 Review Conference of the parties to the Treaty on Non-Proliferation of Nuclear Weapons held in New York, it was stated that, first and foremost, the NPT must be supplemented and strengthened to fit the realities of the twenty-first century. In this regard, it is crucial to enhance the verification authority and capabilities of the IAEA through the universalization of the Additional Protocol (Chun

⁵ "Joint Declaration of the Denuclearization of the Korean peninsula," signed on January 20, 1992, entered into force on February 19, 1992. Full text available at <http://www.state.gov/t/ac/rls/or/2004/31011.htm>.

2005, 62-65). South Korea became the 39th country to ratify the Additional Protocol in February 2004.

Because of limited information, we cannot draw definitive conclusions about the current state of North Korea's nuclear weapons program. What is clear, however, is that North Korea is steadily acquiring more advanced missile forces and fissile materials, in spite of economic problems. With the second-term Bush administration's hard-line policy, time is running out to peacefully resolve the current crisis on the Korean peninsula. Before too late, a solid norm of non-proliferation should be declared once again and the spirit of 1991 joint denuclearization should be promoted in inter-Korean relations.

In relation with a nonproliferation regime, a selective engagement, supported by credible conventional and nuclear deterrence, can be an option worth considering to handle the North Korean nuclear issue. We already have a good example. Following William Perry's 8-month review, the Clinton administration adopted his recommended policy towards North Korea. The plan was called the Perry process. Perry concluded that the policy of engagement towards North Korea should continue. The Perry process involves a two-path strategy focused on U.S. priority concerns over North Korea's missile-related activities, and it was developed in close consultation with Japan and South Korea.

The first path is clearly preferable for the United States and its allies. It seeks complete and verifiable cessation of testing, production, and deployment of missiles exceeding the parameters of the Missile Technology Control Regime (MTCR), and complete cessation of export sales of missiles and their associated technology. The path is one of engagement and normalization (i.e., incentives). If North Korea rejects the first path, however, then the United States and its allies will have to take steps to ensure security and contain the threat. The second path is a path of containment (i.e., disincentives). This policy involves taking punitive measures and sanctions.

The second path is designed to contain North Korean threats through firm but measured steps that are designed to force North Korea to return to the first path. If successful, this will avoid disrupting the security situation in the region.⁶ Unfortunately, the Bush administration completely reversed its policy stance towards North Korea, and its ensuing hard-line policy did not achieve much success. Nevertheless, the chances are slim that the Bush administration will return to the Perry process either.

Applying the selective engagement approach, South Korea should make clear

⁶ For a full text of Perry Report, see "Review of United States Policy toward North Korea: Findings and Recommendations" (Perry Report), Washington, D.C., October 12, 1999. <http://www.isis-online.org/publications/dprk/book/perryrpt.html>.

what it can, and is willing to, give to the North in return for Pyongyang's cooperative behavior in nuclear deals. South Korea already has huge leverage over North Korea in economic transactions and cooperation projects. For instance, the Gaeseong (Kaesong) Industrial Park is an ambitious plan to construct industrial zone and supporting city over 16,000 acres (66.1 km²) of land. When completed, the Gaeseong Industrial Park will host two thousand **Move-in** tenant companies and employ 450,000 North Korean workers. South Korea provided the North with more than 1,389 million dollars' worth of economic assistance since 1995. The South Korean portion of the total international assistance package to North Korea accounted for 61.1 percent in 2004.⁷ Seoul should consider utilizing this leverage to induce Pyongyang to voluntarily give up its ambitious plan to become a nuclear power in Northeast Asia.

The Cooperative Threat Reduction Approach

With the virtual death of the Agreed Framework, it is time to consider a broader approach toward North Korea. A cooperative threat reduction approach is one possibility. The term Cooperative Threat Reduction (CTR) applies to the entire range of international programs designed to reduce the dangers posed by nuclear, chemical or biological weapons or their delivery vehicles. They involve one or more partners working with a host state to eliminate, secure or convert WMD programs for civilian purposes. Partner countries often provide money, technology, equipment or training to the host country. Examples might include helping to secure or destroy nuclear weapons materials, converting chemical weapons production facilities to manufacture chemicals for commercial purposes, destroying ballistic missiles and selling the scrap metal, and providing new opportunities for scientists formerly employed in WMD programs to work in the civilian sector. CTR programs are designed, most of all, to reduce the risk that WMD end up in the hands of sub-national groups, particularly terrorist organizations and to prevent the spread of these weapons to new countries.

These programs have focused heavily on countries in the former Soviet Union. When the Soviet Union collapsed, so did the infrastructure that supported its massive nuclear weapons program. That program had produced more than 40,000 nuclear weapons and over 1,000 tons of fissile materials, which were spread over 11 time zones, and involved dozens of production facilities and research institutes. More than half of

⁷ In 2004, the total international economic assistance to North Korea was 41.9 million dollars worth of commodity and goods, including foods and fertilizers. South Korea contributed 25.6 million dollars. Data is obtained from ROK Ministry of National Unification.

this material resides in assembled nuclear weapons. Fortunately, assembled nuclear weapons are strictly accounted for, difficult to transport, and heavily guarded within secure military installations; the greatest proliferation threat lies in the approximately 650 metric tons of fissile material that exist in forms such as metals, oxides, solutions, and scrap. In addition to nuclear weapon complexes, substantial quantities of fissile materials were held at civilian facilities, often with minimal physical protection.

Given this extraordinary threat, several cooperative initiatives have been undertaken since the early 1990s. Cooperative efforts to prevent illicit transfers of weapons, materials, and technology from Russia, Ukraine, Belarus, and Kazakhstan were proposed in March 1992 and supported by funds made available by the U.S. Congress through the Soviet Nuclear Threat Reduction Act of 1991—also known as the Nunn-Lugar Act, which was named after its leading sponsors, Senators Sam Nunn and Richard Lugar. The act, renamed the Cooperative Threat Reduction (CTR) program in 1993, was initially designed to help the countries of the former Soviet Union destroy their WMD and associated infrastructure while establishing verifiable safeguards against proliferation of those weapons in order to prevent their transfer to rogue nations and terrorist organizations (Roberts 2002, 181-183).

Based on these programs, the United States has invested US\$7 billion in the former Soviet Union since 1991 and is currently spending US\$1 billion per year through programs run by the Departments of Defense, Energy, and State. Other countries also participate, including the European Union and individual member states such as the United Kingdom, [Germany and France as well as Japan and Canada](#).

While much work remains to be done, the results have been impressive. Since 1991, 6,600 nuclear warheads have been removed from service, more than 470 long-range missile silos have been destroyed, and over 1,800 ballistic missiles, cruise missiles, submarines, and strategic bombers eliminated. One hundred and fifty metric tons of highly enriched uranium as well as a major biological weapons plant have also been eliminated. Today, these efforts outside the former Soviet Union include work to eliminate chemical weapons in Libya as well as to convert the Libyan IRT nuclear research reactor into one producing low-enriched, non-weapons-grade fuel. Libyan scientists are also eligible to receive support (Wit, Wolfsthal and Oh 2005, 7-8).

To evaluate the potential success of a cooperative threat reduction approach, we need to examine the conditions of its implementation. There are various obstacles against applying CTR measures to North Korea. No doubt, North Korea seems to be the most improbable candidate for cooperative threat reduction. North Korea would seem to be an unlikely participant in any threat reduction programs initiated by the United States,

given four decades of almost constant hostile relations between Pyongyang and Washington. The North also remains the world's most secretive society. As a result, the prospect of cooperating with outside forces on an issue of vital national defense seems hard to imagine.

In addition, we can find important differences in experience between former Soviet Republics and North Korea. When the Cold War was over, it was Soviet President Gorbachev who first requested Western help in dismantling nuclear weapons, and President Bush proposed United States cooperation on the storage, transportation, dismantling, and destruction of Soviet nuclear weapons. In response to Gorbachev's request, the U.S. Congress determined that the profound changes then underway in the Soviet Union posed three types of danger to nuclear safety and stability, listed as follows: (A) the ultimate disposition[disposal?] of nuclear weapons among the Soviet Union, its republics, and any successor entities that is not conducive to weapons safety or to international stability; (B) the seizure, theft, sale, or use of nuclear weapons or components; and (C) transfers of weapons, weapons components, or weapons knowledge outside of the territory of the Soviet Union, its republics, and any successor entities, that contribute to worldwide proliferation. U.S. Congress concluded that it is in the national security interests of the United States to (A) facilitate on a priority basis the transportation, storage, safeguarding, and destruction of nuclear and other weapons in the Soviet Union, its republics, and any successor entities, and (B) assist in the prevention of weapons proliferation.⁸

Given that, can we find sufficient rationale to apply a CTR approach to North Korea? A number of recent examples seem to support the positive answer. Perhaps the most encouraging case occurred in South Africa in the early 1990s, when, as a result of regime change and a radical transformation of external relationships, Pretoria announced that it would abandon its indigenous nuclear weapons program, which consisted of a small nuclear stockpile, the aircraft and missiles necessary to deliver those weapons, and an extensive scientific and industrial infrastructure to support that arsenal. As the Soviet and Cuban threat in neighboring Angola receded and as fundamental political reforms aimed at ending apartheid and creating a democratic South Africa began, nuclear weapons became a liability rather than an asset. There was no cooperative threat reduction program per se, but the nuclear effort ended in cooperation with the international community.

In the Ukraine case as well, the country agreed to give up its weapons and long-

⁸ Excerpts of "Soviet Nuclear Threat Reduction Act of 1991" (H.R.3807, P.L. 102-228, Agreed to November 27, 1991). <http://www.fas.org> (accessed January 17, 2005).

range missile delivery systems in an effort to forge close relations with the United States and Russia. Aside from tangible benefits such as hundreds of millions of dollars in economic aid, Ukraine was also reassured by intangible benefits, such as security assurances and a pledge by all three countries to respect each other's independence, sovereignty and territorial integrity.

More recently, in December 2003, Libya announced a fundamental decision to give up its WMD and ballistic missile programs. That decision was not made on the basis of internal political changes, but rather because of the slow realization by the Libyan dictator Colonel Muammar Gaddafi that his country could no longer tolerate years of economic sanctions imposed by the international community in the wake of the Libyan-supported bombing of Pan Am 103 in 1988. Some would also argue that since the war in Iraq pointed to the possibility of a worsening external security environment, Gaddafi recognized that giving up, rather than keeping his programs might better serve Libyan interests. As a result, since December 2003, Libya has worked cooperatively with the IAEA, the United Kingdom, and the United States on dismantling its WMD program, redirecting scientists towards peaceful pursuits and converting facilities formerly used for weapons activities to other purposes (Wit, Wolfsthal and Oh 2005, 9-10).

Whether such dramatic transformations are possible in North Korea remains an open and problematic question. Regime change in Pyongyang has been the subject of periodic speculation for more than a decade. Nevertheless, past experience shows that Pyongyang may be willing to cooperate in return for tangible political, economic, and security benefits. Once set in motion, CTR programs would have far more benefits than ever expected before. A threat reduction program in North Korea could bring five related benefits. First, a CTR program in North Korea could enhance the chances for peaceful settlement and the successful implementation of agreements. Integrating CTR proposals into talks with North Korea can also work to enhance the chances for diplomatic success. The prospect of a sustained effort by the United States, probably working in conjunction with others, to not only dismantle Pyongyang's WMD and ballistic missile programs, but also to inject valuable resources into the modernization of the civilian economy, is something likely to not go unnoticed by North Korea.

Secondly, a CTR approach can reduce **certainty**, enhance transparency and bolster a verification regime in North Korea. Once a CTR approach is agreed upon, negotiators will seek provisions, including on-site inspections, which will give them assurance that the terms of all agreements are being met. This will be especially important given uncertainties about the North's WMD programs and its violations of

past arrangements.

Thirdly, CTR programs can ensure that North Korea remains free of WMD over the long term. Any agreement with North Korea, in addition to ensuring that its WMD programs no longer pose a threat, must also put in place a lasting solution that will avert periodic blowups[flare-ups] over undiscovered facilities and programs. To better ensure the achievement of that objective, agreements must not only remove from the Korean peninsula all WMD and the materials used to build them, but also eliminate the underlying infrastructure—in both facilities and scientists—that are the foundation of such programs.

Fourthly, CTR measures can promote more normalized relations between North Korea and other countries. Patterns of cooperation put in place by threat reduction programs may have a spillover effect by helping to break down North Korea's isolation, promote more normal relations with other countries, and possibly help induce gradual change in its system. Cooperative threat reduction programs may also spark more frequent interactions that can, over time, develop in depth and scope. That has certainly happened in Russia and elsewhere, where contacts between individual government agencies have burgeoned as a result of threat reduction programs.

Fifth and finally, CTR programs will encourage Pyongyang to modernize its civilian economy. A long-term objective for the United States and other countries should be to encourage Pyongyang to shrink its military by shifting resources to the modernization of the civilian sector. In spite of North Korean rhetoric about its “military-first” policy, there have been signs over the past few years of a quiet debate in Pyongyang over whether resources should be shifted to the civilian sector. By dismantling WMD and the supporting industrial infrastructure through, in part, the redirection of resources towards peaceful pursuits, threat reduction programs could bolster efforts undertaken by moderate forces in Pyongyang to reform and modernize the North Korean economy (Wit, Wolfsthal and Oh 2005, 13-15).

Bridging the Confidence Gap

In order for a cooperative threat reduction approach to work in the North Korean case, a minimum of political-military confidence may be a prerequisite. In this regard, South Korea can contribute to bridging the gap in trust between Pyongyang and other parties involved in nuclear deals. Theoretically, the best solution to the North Korean WMD issue is making an international environment in which North Korea does not need WMDs any more. This is equivalent to saying that political-military confidence

building must precede any meaningful arms control agreement with North Korea. U.S.-North Korean relations are marked by distrust toward each other. Inter-Korean dialogues have also stalemated since the middle of 2004. Although inter-Korean dialogues are now institutionalized, Pyongyang often reverts to its old habit of boycotting most major formal channels of North-South interactions. July 8, 2004 marked the 10th anniversary of the death of Kim Il Sung, which was when the trouble started. The Roh Moo-hyun government did not permit leftist South Korean NGO leaders to visit North Korea to mourn Kim Il Sung. Pyongyang denounced Seoul's ban and declined to attend a meeting on maritime cooperation a few days later. North Korea was further riled by a mass airlift of its refugees to Seoul from Vietnam. Accordingly, two main quarterly inter-Korean dialogues—the 15th ministerial talks and the 10th session of Economic Cooperation Promotion Committee—were cancelled.

Given that, recovering minimal trust is a first step toward a cooperative threat reduction approach. Once such mutual trust is established, the next step is formulating an acceptable incentive for North Korea in return for giving up its WMD ambitions. Meaningful change is already taking place in the Gaeseong area. It is worth noting that North Korea moved its artillery battalions deployed around Gaeseong area to somewhere north of Gaeseong. Although the Western media did not pay much attention to this move, the security implications are enormous. North Korea gave up military advantage in return for accepting construction of the Gaeseong Industrial Park. The Gaeseong Industrial Park is a symbol of inter-Korean economic cooperation, along with the reconnection of railroads and motorways and the Geumgangsan Tourism Project. To resuscitate its ailing economy, Pyongyang desperately needs foreign aid and investment.

Furthermore, if Washington would give a reasonable security commitment to North Korea, the chances for the success of the CTR program would greatly increase. South Korea can and should, play a major role in bridging the missing trust between Pyongyang and Washington. In the actual process, sending a special envoy to Pyongyang may help to ease North Korea's security concerns and usher it to decide to give up its nuclear ambitions. For instance, a Carnegie Endowment report recommended ending the state of permanent crisis by pursuing rapid and ongoing negotiations with North Korea led by a special envoy. This person must be presidentially-appointed and fully authorized to negotiate, prepared and empowered to make serious progress, and in a position to meet with North Korean counterparts of sufficient rank to conduct substantive negotiations (Perkovich et al 2004, 188). The South Korea government has also examined the special envoy option as part of its efforts to resolve the nuclear crisis.

Organizing for Success

Another key obstacle is how to raise[one of raising] necessary funding. Appropriating tens of millions of dollars that may be needed to carry out CTR measures in North Korea will prove very difficult. Considering the total cost, any single country cannot bear the whole cost. That's why multinational burden-sharing is necessary. In this regard, international support is essential. Currently, one of the most serious stumbling blocks for international financial aid to North Korea is a legal restriction based on North Korea's past support for international terrorism and poor nonproliferation record. North Korea should be removed from the list of 'state sponsors' of international terrorism first.

What can South Korea do? South Korea should consider organizing an international consortium to promote economic assistance to North Korea.⁹ The primary role of such an international consortium would be to provide massive financial aid to North Korea and promote funds for this goal. South Korea can be an organizing hub for this consortium. Initially, the consortium can start with member countries of the six-party talks, and expand the membership to include countries of the European Union and others.¹⁰ Considering the degree of mistrust between the United States and North Korea, any U.S.-led attempt to organize such an international organization is doomed to fail. Organizing an international consortium has several advantages. Most importantly, such international activities will expand the chance to expose North Korean people to the outside world and information.

One remaining practical problem is the cost-sharing issue in creating a consortium. There is no easy answer for this. If this consortium were created, South Korea and China would probably provide most of the funds. A detailed plan should be negotiated among participating countries.

There are many opportunities for such cooperative activities. For example, the Los Alamos National Laboratory's "Sister Laboratory" program can provide practical help for organizing international technical assistance to North Korea.¹¹ Article IV of the NPT obliges signatory states to facilitate the development and application of peaceful uses of nuclear energy through technical cooperation. To this end, the United States launched an initiative in the early 1980s to establish cooperative institutional

⁹ This idea was first presented at International Workshop on Cooperative Threat Reduction Program for North Korea's Weapons of Mass Destruction, co-organized by Carnegie Endowment for International Peace and CSIS, January 28, 2005, Hotel Shilla, Seoul, Korea.

¹⁰ "Bukhaek pyegi daega-ro gukje gyeonghyeop gigu piryo" (Necessity of International Economic Consortium in Return for Dismantling of North Korea's Nuclear Program). *Yonhap News*, February 1, 2005.

¹¹ Dennis Newell and K. E. Apt B. J. Sinkule (2003).

relationships between U.S. National Laboratories and counterpart laboratories in developing nations. These non-binding arrangements allow technical experts to interact at a working level to develop civil nuclear energy applications. Programs undertaken by sister laboratories include training, fellowships, business planning, and exchanges of equipment for radioactive waste management, radiopharmaceutical research, and environmental evaluation and surveillance. North Korean authorities demanded it's the right to use nuclear energy for peaceful purposes. Theoretically, North Korea is entitled to this privilege once it rejoins the NPT and concludes the IAEA Safeguards agreement. Depending upon how North Korea shows its intention to comply, the use of nuclear energy for peaceful purposes through a cooperative program will be a good incentive for North Korea.

Conclusions

In Northeast Asia, North Korea will present serious proliferation challenges not only for South Korea but for all other countries in the region. While North Korea is suffering from serious economic shortcomings, its leaders have chosen to continue to attach high priority to maintaining WMD weapons and missile programs. North Korea is also one of the world's leading exporters of missiles and missile production technology, particularly to the Middle East and South Asia. These exports have added to the overall proliferation problem and further raised tensions in these regions.

Over recent years, the conventional military balance on the Korean peninsula has shifted against the North. Being aware of the disadvantage in the conventional arms race, Pyongyang took the course of developing weapons of mass destruction to compensate for their inferiority. Because military options are extremely risky and unattractive, diplomacy—backed by military, political, and economic superiority—has been the preferred instrument to restrain and dismantle North Korea's military threats. That is the basic rationale behind the “sunshine policy.” Over the past decades, the South Korean government has made a variety of diplomatic efforts to address the challenges posed by North Korea's WMD programs. These efforts have succeeded in delaying or limiting North Korea's nuclear and missile capabilities, but they have not been able to stop or eliminate them. Because the stakes are so high, and because military options are too risky, diplomatic efforts should continue to dismantle North Korea's WMD arsenal.

Considering the current North Korean nuclear crisis, a dramatic breakthrough

does not appear imminent. However, a continuation of dialogues like six-party talks, as well as the intense bilateral diplomacy towards North Korea, can begin incremental progress towards a resolution of difficult issues. There are a lot of areas where a cooperative threat reduction approach can contribute in this regard.

South Korea's Roh Moo-hyun government has placed high priority on the progress of inter-Korean relations since its inauguration in 2002. Despite its efforts, inter-Korean relations repeated on-again, off-again pattern of fluctuations. The year 2005 marked a major breakthrough in dead-locked dialogues between Seoul and Pyongyang. In May 2005, North Korea resumed official contacts with South Korea, after a hiatus of almost a year. North Korea also returned to the six-party talks table in September. Although it is a good sign, the talks cannot continue indefinitely. Before too late, we must find an exit for the decade-long nuclear crisis on the Korean peninsula. It will be a real cornerstone for a lasting peace regime on the Korean peninsula.

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