

# The North Korean Nuclear Program and External Connections

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## Abstract

*The North Korean nuclear program that is threatening the peace and stability of the whole of Northeast Asia has been going on for at least the past four decades. Even though North Korea had received help from many quarters in the development of its nuclear program, the country that has played the most significant role in its development is Pakistan. The close relationship between the two countries started more than three decades ago and it is still going on. Pakistan has provided North Korea with nuclear know-how and other needed assistance in return for which it received missile technology and in some cases even ready-made missiles from North Korea.*

*The American approach to this external linkage of the North Korean nuclear program has been one of confusion and incomprehensibility since the outset of this linkage.*

*Recent policies of the United States toward North Korea have made many doubtful of the American commitment to nuclear non-proliferation in Northeast Asia. Many believe that America's policies are instead driving North Korea toward attaining nuclear weapons at a very rapid pace. America thus needs to re-evaluate its approach toward North Korea and instead of seeking temporary solutions, it should come out with a comprehensive solution based on a truly multilateral approach, where the concerns of all parties involved are well-considered. America as the lone superpower should cease bullying smaller and weaker North Korea, by taking its allies South Korea and Japan along the same course.*

## Introduction

One of the most important reasons why North Korea today is so close to acquiring a nuclear bomb (or already has one), despite its failed economic and political system, is its ability to acquire nuclear technology from the outside world. The nuclear program, which was initially meant for peaceful purposes, was later diverted to military purposes (nuclear weapons) based on North Korea's strategic and defense needs.

Pakistan has played a very important role in helping North Korea to convert its peaceful program to a weapons program by providing the necessary know-how and other essential assistance. However, despite all the hue and cry raised by the United States about global nuclear proliferation, it has failed to act to stop this connection between these two rogue states. And now, when North Korea has almost acquired a nuclear bomb, the United States is crying foul and is trying to find some patch-up solutions to this increasingly complex problem.

The failure of the six-party talks in Beijing in August 2003 brought the pre-1994 agreed framework situation to the Korean Peninsula. Despite its hard-line stance, the current U.S. administration does not have any more choices than what were available to former President Bill Clinton after the 1994 agreement. And despite its emphasis on a multilateral approach to solving the crisis, the United States has failed to achieve consensus among key regional allies, such as Japan and Korea, and has forced its unilateral agenda on the entire region. The United States has yet to come to understand that a unified approach to dealing with the situation is paramount.

On October 16, 2002, the U.S. State Department announced that North Korea had acknowledged the continuance of its nuclear program, despite the constraints imposed on it by the Geneva Accord of 1994, as well as a series of other international agreements ranging from the Nuclear Nonproliferation Treaty and the International Atomic Energy Agency Safeguards Agreement to the 1992 Joint North-South Declaration on the denuclearization of the Korean Peninsula.<sup>1</sup> It is

1 The U.S. State Department, *North Korean Nuclear Program*, press statement by Richard Boucher, October 16, 2002 available at <http://www.state.gov/r/pa/prs/ps/2002/14432.htm>.

claimed North Korea also acknowledged to U.S. Assistant Secretary of State James Kelly during his visit to North Korea that it also had "more powerful" arms; presumably other types of weapons of mass destruction (WMD)—biological and/or chemical weapons—developed during the past several years.

Since then a debate on the issue has started among scholars, and various reasons and explanations have been given for North Korea's continuation of its nuclear program and its open admission to the United States. It is reasoned that North Korea has kept its program as a means of increasing diplomatic and commercial bargaining leverage, to raise cash through the sale of its missile technology, and as possible deterrence against neighboring countries such as South Korea and Japan, as well as U.S. forces stationed in the region.<sup>2</sup>

While it is very difficult to determine exactly why North Korean supreme leader Kim Jong-Il decided to go public with his nuclear program, from the outset we can see two explanations for this public confession. Firstly, it can be argued that Mr. Kim hoped to use the nuclear program and corresponding nuclear threat to the region to extract maximum international political and economic concessions from the international community. Secondly, with the U.S. preoccupation with Iraq, North Korea might have thought the United States could hardly afford to engage simultaneously in another war on the Korean Peninsula. Thus they may have felt it might be the right time to pressure the United States for a negotiated settlement based primarily on North Korean terms.

No matter what the reasons for North Korea to go public with its nuclear program, it can be said with certainty that in 1956 when North Korea originally began its initial nuclear program with the assistance of the Soviet Union it was mainly meant for peaceful purposes.<sup>3</sup> Up until the early 1980s North Korea had kept its agreements with the Soviet Union and had made no attempts to use its nuclear program for mili-

2 John Newhouse, "Bring North Korea in from the Cold," *Financial Times*, Oct. 18, 2002.

3 In 1956, Pyongyang and Moscow concluded two agreements concerning nuclear research and they signed additional protocols in 1959. All of these agreements limited cooperation between the two countries to the peaceful use of nuclear energy.

tary purposes.<sup>4</sup> However from the late 1980s, when ideological differences grew in various spheres, between the Soviet Union under Gorbachev and North Korea, Pyongyang started showing some signs of diverting its nuclear capabilities toward military purposes.

With the collapse of the Soviet Union in the late 1980s, the North Korean leadership had found itself in a very difficult situation. It came to the conclusion that in the changed international order of the region it could no longer depend on its few friends or allies for external security and had to thus rely on its own resources to defend itself. To prepare itself to meet the new security threat, it thereby decided to tighten ideological and political control over the country. It also decided to go nuclear to defend itself against the United States, which was emerging victorious in the Cold War against the Soviet Union.

In this changed international environment, various other factors may have also influenced North Korea's decision to go nuclear. North Korea might have considered the nuclear option as the most effective and cheapest deterrent against the ever-increasing threat to its security that it felt from the United States and its allies in the region. Due to the North's weakening economic situation, by the late 1980s it had lagged behind Seoul in military strength. Finding itself unable to dominate South Korea in a conventional military clash, the North's nuclearization option might have been seen as the only viable option to pursue. Development of nuclear weapons might also have helped to prevent other regional countries from interfering in or influencing its internal affairs.<sup>5</sup>

Nuclear weapons development might have also helped Kim Il Sung to boost his image at home by increasing his standing among the North Korean masses, the Communist Party, and above all within the

4 Although many Western analysts claim that the nuclear weapons ambitions of Kim Il Sung's regime were developed in the 1970s, neither their arguments nor the data they provide to back these allegations can be substantiated by independent sources.

5 For a detailed study of this subject see, Natalya Bazhanova, "North Korea's Decision to Develop an Independent Nuclear Program," in James Clay Moltz and Alexandre Y. Mansourov, eds., *The North Korean Nuclear Program: Security Strategy and New Perspectives from Russia* (New York: Routledge, 2000), pp. 127–37.

North Korean military. It might also have helped in tightening his control over North Korean society. By developing nuclear weapons and thus increasing the tensions on the Korean Peninsula, he would have enabled himself to keep the whole North Korean population in a hostage situation, thus forcing it to accept his authority without question.<sup>6</sup>

Kim Il Sung also used the nuclear program to boost the North's bargaining capability within the international community. He tried to prove to the world that despite its terrible economic situation and failing political philosophy, North Korea could still hold its own and could survive against all international pressure. It thus used its nuclear program to tell the international community that despite all adverse or antagonistic forces or sanctions, it would not change its policy and would not submit to international pressure.

Nuclear weapons could also have served in raising the international standing of the North Korean regime. Despite the attempts of much of the international community, the North did manage to develop a viable nuclear program. It demonstrated the technological capability and great achievement possible from a small developing nation. It also boosted the ego of the North Korean people; not a small consideration in such a nationalistic society.

The North Korean political leadership also used its nuclear program to force the United States to come to the negotiating table. North Korean leaders were somehow convinced that without a strong military deterrent it could not force the United States leadership into a negotiating position. To bring the United States into a bargaining dialogue, thereby gaining concessions on its nuclear program, was considered as the best bargaining chip. In this regard the North Korean strategy was simple. First, the development of its nuclear weapons would take place, and then after drawing considerable concessions from the United States, it would then abandon the program. It was considered to be a win-win situation by North Korea, whereby any concessions from the United States would automatically translate into gains for the increasingly desperate country and its economy, and if it didn't get its desired concessions, but managed to keep its nuclear programs, this

6 Ibid., pp. 127–37.

too would also be considered a gain. Thus it used its nuclear program to support the diplomatic strategy of keeping the United States engaged in endless negotiations over the nuclear issue while preventing the United States addressing from issues such as human rights violations in North Korea, drug trafficking, long range missile sales to Pakistan and some Middle Eastern countries, conventional disarmament, terrorism, political and economic reforms in the country—and many other important issues relevant to the South and Japan and the United States.

### Initiating and Developing the North Korean Nuclear Program, and the Russian Connection

No matter what the initial reasons were for North Korea to develop a nuclear program, the basic reality today is that North Korea is very near to (if not already) becoming the world's ninth nuclear power. Last year, U.S. intelligence agencies had estimated that Pyongyang has one, or perhaps two, nuclear weapons. This has made an already complex web of Northeast Asian security a more difficult one. It also threatens U.S. interests worldwide, as it may send signals to other countries that having nuclear weapons is the only guarantee against American aggression, as the United States has thus far failed to take any actions against North Korea despite the latter openly admitting possession of nuclear weapons.

However, a possible nuclear Northeast Asia would not be a new scenario for the United States. It has been involved with nuclear weapons on the Korean Peninsula since the time of the Korean War (1950-1953). In order to deter Chinese involvement in this conflict, the United States several times threatened the use of nuclear weapons. After the war America kept its nuclear options open and stationed armed forces in the south of the divided Korea. Keeping pressure on North Korea, in 1958 it deployed several types of nuclear weapons on the Peninsula.<sup>7</sup> For example, earlier on, the Honest John surface-to-

7 "Where They Were," *Bulletin of the Atomic Scientists*, November/December 1999, pp. 26–35; Il-Young Kim and Seong-Ryoul Cho, *Chuhanmigun [U.S. Forces in Korea]* (Seoul: Hanul Press, 2003), pp. 107–109.

surface missile, the massive 280-millimeter gun, the 8-inch artillery shell, and atomic demolition munitions (ADMs) were deployed. By 1964 the United States had introduced more sophisticated nuclear weapons, including Lacrosse and Sergeant ballistic missiles, Nike Hercules surface-to-air missiles, Davy Crockett nuclear bazookas, and 155-millimeter artillery shells. In 1967 the United States had approximately 950 nuclear warheads of eight types in South Korea.<sup>8</sup>

The fact that North Korea was threatened with such a large number of nuclear weapons since the Korean War surely played an important role in the North Korean decision to develop a nuclear program of their own.<sup>9</sup> The North Korean civilian nuclear program began in 1959 with North Korea signing an agreement with the Soviet Union on cooperation in the field of atomic energy. This was followed by a series of contracts (the so-called Series 9559 contracts), which intensified cooperation between the two countries in such areas as the conduct of geological studies, the construction of a nuclear research center and the training of Korean nuclear technical specialists.<sup>10</sup>

As a result of this cooperation, the North constructed its first nuclear research center 92 kilometer from Pyongyang on the right bank of the Kuryong River, 8 km from the district center of Yongbyon.<sup>11</sup> It

8 This was the highest number of U.S. nuclear weapons in Korea. By the mid-1980s, only the 8-inch and 155-millimeter artillery shells, ADMs, and gravity bombs remained, and the number of warheads had dropped to about 150. With little fanfare and no formal public announcement, in the fall of 1991 President George H. W. Bush ordered the removal of all the remaining weapons, which was accomplished in 1992.

9 The fact that North Korea began its nuclear program in 1959 after the United States deployed highly-sophisticated nuclear weapons in 1958 supports this argument.

10 For a detailed study of this subject see, Georgiy Kaurov, "A Technical History of Soviet-North Korean Nuclear Relations," in James Clay Moltz and Alexandre Y. Mansourov, eds., *The North Korean Nuclear Program: Security Strategy and New Perspectives from Russia* (New York: Routledge, 2000) pp. 15–20.

11 The site was situated amid hills 40-60 meters high in a newly-cultivated area previously occupied by rice fields. During the site-selection process, however, the planners made a mistake in failing to take into account the high water mark of the Kuryong River. The normal level of the Kuryong River in the summertime is 28 meters. But during the July-August flood season the level

consisted of an IRT-2000 nuclear research reactor, a radiochemical laboratory, a K-60000 cobalt installation, and a B-25 betatron. It was further expanded and new auxiliary technical facilities were built according to Soviet blueprints, with the equipment having been partially supplied by the Soviet Union.<sup>12</sup>

The power of the original Soviet-supplied reactor was 2 megawatts (MW) which was later extended to 5 MW and then 7 MW by North Korea using its own resources. The starting of the nuclear reactors helped North Korea to study physical and chemical processes that occur under the impact of ionizing irradiation; to research the effect of radiation on solid substances, including semiconductors; to conduct an activation analysis to measure neutron sections of atomic nuclei; to conduct gamma-spectroscopic and radiation research; and to carry out analyses of the biological impact of ionizing radiation.<sup>13</sup>

Apart from building the nuclear reactor at Yongbyon another major highlight for cooperation between the two countries was the training of North Korean specialists in the Soviet Union. In total, more than 300 North Korean nuclear specialists of various qualifications were trained at various Soviet institutes of higher education. These facilities included the Moscow Engineering Physics Institute, the Bauman Higher Technical School, the Moscow Energy Institute and other such establishments. Some North Korean nuclear specialists also worked at the nuclear scientific research complexes in the cities of Dubna and Obninsk.<sup>14</sup>

The cooperation between North Korea and Soviet Union continued through the 1970s and 1980s, and got a further boost when, on the initiative of Pyongyang, the two countries signed an agreement on

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rises to the 33-meter mark usually once every five years and once every 50 years to the 34-meter mark. See Georgiy Kaurov, "A Technical History of Soviet-North Korean Nuclear Relations," pp. 15–20.

12 The facilities which were added consisted of a set of UDS 10 decontamination drains, a waste-storage site, a special laundry facility and a boiler plant generating 40 tons of steam per hour. Thirty Soviet specialists participated in the construction of these installations and in preparations to put them into operation.

Ibid.

13 Ibid.

14 Ibid.

Economic and Technical Cooperation in the construction of a nuclear power plant in the Democratic People's Republic of Korea on Dec. 26, 1985.<sup>15</sup> However, the cooperation came to a halt after the collapse of the Soviet Union when North Korea failed to meet its obligations under the agreement.

### Beyond the Russian Help

Even though North Korea had acquired most of its nuclear infrastructure from the Soviet Union, it could only convert its basically civilian nuclear program in the beginning to weapons development with the help it received in equipment and know-how and other assistance from China, Pakistan and some Middle Eastern countries. It has subsequently also attempted to acquire nuclear and dual-use equipment from Europe and Japan, both legally and through its extensive illegal smuggling operations.<sup>16</sup> Among all the countries that helped North Korea to develop its nuclear program, Pakistan is believed by the international community to have played the most significant role in North Korea's nuclear weapons development program.<sup>17</sup> The coopera-

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15 The Agreement provided for cooperation on the design, construction, commissioning, and use of a nuclear power plant in the DPRK consisting of four energy blocks with surface reactor installations of the VVER-440 type. The Soviet government undertook to open a credit line to the DPRK government in order to enable it to pay for the costs to be incurred by various Soviet organizations in connection with the supply of technological equipment, instruments and materials, as well as the development of blueprints for the nuclear plant's construction. The amount of the loan and its terms were to be determined by the two sides after the development and approval of the technical project. Prior to the formal approval of the project, the various costs incurred by Soviet organizations were to be reimbursed by the North Korean side in accordance with the terms of the Soviet-North Korean agreement on mutual supplies of goods and mutual settlements for the 1986-1990 period. Ibid.

16 North Korea continues to operate an extensive global smuggling network to this day.

17 For deep insights into the Pakistan-North Korean Nuclear connection see, B. Raman, "The Pak-North Korean WMD Axis," *Sify News*, April 8, 2003, available at [Sify.com/news](http://Sify.com/news); Suzanne Goldenberg, "Pakistan helped North Korea make

tion between North Korea and Pakistan in the nuclear arena has become a matter of serious international concern because of the perceived extent of the relationship between the two countries, and the ensuing implications for South Asian and East Asian security.

The relationship between the two countries started in the early 1970s, when Pakistan, fearing war with India over East Pakistan, approached North Korea for military supplies.<sup>18</sup> North Korea reacted favorably to Pakistan's request and agreed to supply Pakistan with conventional weapons, and signed an agreement in this regard on September 1971.<sup>19</sup> Close military relations between the two countries continued and Pakistan facilitated arms supply agreements between Pyongyang and Libya and Iran. During the Iran-Iraq war North Korea emerged as one of the major suppliers of weapons to Iran through Pakistan.<sup>20</sup> Pakistan also helped Libya in the use and maintenance of North Korean weapons.

During the 1980s, Pakistan and North Korea joined hands in the clandestine acquisition of nuclear and missile-related equipment and technology from Western countries, particularly from then Western Germany. Relations between the two countries were further boosted when Pakistan was looking for a suitable delivery system for its newly-built enriched uranium devices. In the beginning, Pakistan thought of F-16 aircraft acquired from the United States as its main delivery system for the bombs. However, in 1989 when the United States stopped economic and military aid to Pakistan under the Pressler Amendment, Pakistan was forced to look for alternative means to deliver its nuclear

bomb" *The Guardian*, Oct. 19, 2002.

18 Pakistan foreign minister Zulfikar Ali Bhutto, the then foreign minister under the late Gen. Yahya Khan, visited Pyongyang and requested North Korea's help in its war preparations against India.

19 Under another agreement signed the same day, the two countries agreed to set up mutual consular relations, which were upgraded to full-fledged diplomatic relations on Nov. 9, 1972.

20 Because of the arms embargo imposed by Western countries, North Korean ships offloaded their arms cargo in the port of Karachi. From there it was transported to Iran by trucks. Through Pakistan, North Korea supplied to Iran around 100 Scud B (known as the Hwasong 5 in North Korea) ballistic missiles and equipment for the assembly, maintenance and ultimate production of these missiles in Iran.

devices. Development of ballistic missile forces was considered as the appropriate alternative to deter the growing Indian military might.<sup>21</sup>

There was, however, a major obstacle in Pakistan's development of its own ballistic missile force. It had no infrastructure, personnel, or research and development program to support its ballistic missile project. Furthermore, from 1987 onwards, its capacity to develop an indigenous missile capability was further constrained when the United States imposed a strict regime on the international trade of ballistic and cruise missiles, and other dual-use items and technologies.

Convinced that it had no chance of developing its own ballistic missile force, Pakistan started looking to outside sources for the supply of ready-to-launch missiles. Chinese missiles were its first choice. It purchased 34 solid-fuelled M11 ballistic missiles, capable of delivering a 500 kilogram payload over 300 kilometers, from China in 1989. Looking further east, Pakistan bought around 12-25 liquid-fueled Rodong ballistic missiles from North Korea. The Rodong system has a longer range and can deliver a 700-1000 kg payload over some 1000-1300km.

Pakistan's decision to go to North Korea was influenced by some serious problems at home. The Chinese-supplied M-11s were short-range systems and thus could not be used to hit long range, high-value targets in western parts of India. In order to deter India, which already had long-range missile programs which could hit any part of Pakistan, it needed a missile system which could reach any part of India. On refusal from China to supply long-range missiles in compliance with the missile technology regime (MCTR), Pakistan was left with no choice but to look for other suppliers to meet its defense requirements.

Pursuing its plans to acquire a longer-range missile, Pakistan officials visited North Korea to view a Rodong prototype as early as 1992. In 1993, when North Korea conducted a Rodong launch test at Musudan-ri, many Pakistan engineers and scientists attended the event. Later on in the year in December when the then Pakistani Prime Minister Benazir Bhutto visited Pyongyang, a missile deal featured on her agenda.<sup>22</sup> To seal the deal between the two countries, in late 1995 Mar-

21 For a detailed study of the Pakistan-North Korea connection also see, *Pakistan and North Korea*, IISS (International Institute for Strategic Studies) Vol. 8, No. 9 (November 2002).

shal Choe Gwang, the former vice chairman of North Korea's national defense commission, visited Pakistan and brokered a missile deal.<sup>23</sup>

As the missile trade between the two grew more intense, increasing border details about this cooperation kept appearing in the international media throughout the 1990s.<sup>24</sup> During this time Pakistan signed a secret agreement with North Korea for the joint production through reverse engineering of the U.S.-made, shoulder-fired Stinger missiles and their batteries.<sup>25</sup> Trilateral cooperation between North Korea, Pakistan and Iran continued also throughout the 1990s despite Iran's serious difference with Pakistan over its support to the Taliban, and the periodic massacre of Shias and Iranians citizens in Pakistan by Sunni extremists.<sup>26</sup>

22 This visit by Benazir Bhutto to Pyongyang was followed by the visits of several high-ranking North Korean officials to Pakistan. Some of these included Park Chung-Kuk, deputy to the Supreme People's Assembly, who visited Pakistan and Iran in April 1994, and Choi Hui Chong, Chairman of the state commission of science and technology, in September 1994 at the head of a North Korean nuclear and missiles team.

23 Apart from other things the deal included the training of scientists and engineers in the Pakistani uranium enrichment plant at Kahuta and the supply of the Rodong Missiles and related technology to Pakistan.

24 Pakistan has consistently denied the North Korean connection in its missile development program even though the evidence suggests otherwise. Usually it has taken around one to two decades for all countries that have long-range missiles to complete the time-consuming process of developing and testing indigenous missiles. Pakistan is the only country in the world that has no history of testing and development. The world came to know to about its missiles program when it tested fully-developed ballistic missiles over an urban center. It is unheard of in the history of missile development that a country tests its first missiles over an urban center. This kind of confidence comes from the fact that the weapon was already tested and was very reliable. From the missile's external appearance, range and warhead payload, it was very clear that it was the North Korean Rodong missile. This analysis is further strengthened by the fact that there was an increase in air traffic between North Korea and Pakistan just before the launch, and North Korean crews were present during the test launch. Available evidence suggests that Pakistan has many versions of the Rodong. The Ghauri-1, with a range of 1,300+km and payload of 700 kg; and the Ghauri-3 with an expected range of 3,000 km. For North Korea-Pakistan missile cooperation see, Joseph S. Bermudez Jr., available at <http://cns.miis.edu/research/korea/chr6079.htm>.

25 It is widely believed Iran has funded this project.

During this time, a North Korean foreign minister also visited Pakistan, Iran and Syria. The cooperation between these countries became public knowledge when Taiwanese officials seized 15 tons of ammonium percolate, an oxidizing agent used in most modern solid propellant formulas, on a freighter bound from Pakistan's Space and Upper Atmosphere Research Committee. North Korea also helped the Pakistani nuclear program by arranging the supply of maraging steel from the All Russian Institute of Light Alloys in Moscow during this period.<sup>27</sup>

In the following years foreign intelligence agencies began reporting with more and more intensity the increased frequency of cargo flights between North Korea and Pakistan. It was reported that North Korean telemetry crews had traveled on some of these flights. Indian defense officials alleged that in return Islamabad transferred nuclear materials and technology using a private airline run by a retired Pakistani air force officer with close connections to Pakistan's Inter-services Intelligence Agency.

The intensity of the relationship between Pakistan and North Korea became clearer with the Pakistani testing of the North Korean Rodong missile (in Pakistan they named it Ghauri) in April of 1998. North Korean missile specialists and engineers who were present at the launch site helped Pakistan with the test launch. The U.S. State Department took serious notice of the exchange and declared it a violation of the MTCR and imposed sanctions on Pakistan's Khan Research Laboratories and North Korea's Changgwang Trading Company. However, despite these sanctions, the trade between two countries continued and in 1999 Indian customs officials, acting on an intelligence tip-off, seized the North Korean ship *Ku Wol San* at Kandla in Gujarat, India. Under disguise of water purification equipment, the ship was carrying missile components and metal castings to Pakistan. Technical manuals (22 in

26 Sunni extremist group Sipah-e-Sahaba and its military wing the Lashkar-e-Jhanvi were mainly involved in these anti-Shia activities.

27 Maraging steel has applications in rocket-motor casings as well as high-speed centrifuges used in the gas-centrifuge uranium enrichment process. In 1997, Kang Tae Yun, a North Korean diplomat based in Pakistan who also worked for the Changgwang trading company, arranged for the supply of maraging steel from the All Russian Institute of Light Alloys in Moscow to both North Korea and Pakistan.

number) for Scud-type missiles were also recovered from the ship.

This growing trade between the two countries made many specialists wonder how Pakistan was paying for this trade, since Pakistan's economy was in very bad shape. The idea that North Korea was arming Pakistan for strategic reasons like China, which is involved in strategic rivalry with India did not hold any water, as North Korea had no geopolitical interests in building up Pakistan's strategic capabilities against India.

Answers to this payment question started emerging when, in the summer of 2000, U.S. intelligence agencies begin detecting North Korea's clandestine efforts to procure high-strength aluminum tubes to build gas centrifuges. After critically examining both the openly available and closed information, U.S. agencies came to the conclusion that Pakistan was the source of North Korea's uranium enrichment technology. Even though the agencies did not detail the precise nature and extent of the technological exchanges, the American government sources insisted that cooperation involved the exchange of scientific personnel and some highly questionable shipments to North Korea. Later on, the United States claimed that in some form the cooperation between the two countries was continuing as recently as August 2002.

This missile-for-nuclear-technology swap between Pakistan and North Korea becomes more understandable if we examine the situation the two countries were in during that time. By 1996 Pakistan's economy had gone from bad to worse and IMF bailouts were called in to save the country. Even though Pakistan might have intended to pay cash for the North Korean missiles, the economic situation of the country made it impossible for it to pay in hard currency.<sup>28</sup> It was in this dire situation that Pakistan might have decided to transfer nuclear technology in lieu of cash payments to North Korea. Similarly, North Korea, after the 1994 Agreed Framework, in which it agreed to shut down its plutonium-based nuclear program, was finding it difficult to continue with its covert missile research and development. In these circumstances, Pakistan uranium enrichment technology proved to be very attractive to North Korea for continuing their nuclear efforts.

<sup>28</sup> For example, in 1999 North Korea was asking for \$ 1 million for Taepodong missiles.

The recent disclosures by Iran and Libya that they have got most of their nuclear technology from Pakistan have confirmed the suspicions, which were making the rounds in the international news media for some time. After years of denial of its involvement in nuclear proliferation Pakistan has finally acknowledged the truth. It has confirmed that several of its prominent nuclear scientists, including Abdul Qadir Khan, the "father" of Pakistan's so-called "Islamic atomic bomb," were involved in the sale of nuclear technology to Iran, Libya, North Korea, and many other international smugglers. However instead of honestly confessing the role of past Pakistan regimes Pakistan has tried to wash away its overall responsibility by putting the entire blame on some individual scientists. It claims that "rogue scientists" driven by "ambition or greed" have been behind secretly-transferred nuclear technology to Iran, Libya and other countries and stress that this was done without the knowledge of the government.

Since the inception of the Pakistani nuclear program in the 1970s the Pakistan military has retained tight control over the program. This control became more rigid after Zulfikar Ali Bhutto's civilian regime was overthrown by the military in 1977. When civilian rule was restored after a gap of 10 years in 1988, the military refused to give up its complete control over the nuclear program. However, this is not to suggest to that the civilian prime minister was not privy to key decisions and informed of important developments.<sup>29</sup>

It is matter of common knowledge that Zia's successor, General Aslam Beg had tried hard to prevail upon the subsequent governments to help Iran develop nuclear technology. General Beg's influence and knowledge about the nuclear exchanges that took place between some Pakistani and Iranian nuclear scientists cannot be discounted easily. Another important voice in nuclear matters during that period was that of former president Ghulam Ishaq Khan. From 1982 to 1993 Ishaq held the purse strings for the nuclear program. Ishaq Khan arranged the finances for the nuclear program as Zia's finance minister. Strategic decision making rested with the respective army chiefs, but Ishaq alone

<sup>29</sup> Prior to the creation of the National Command Authority in the late 1990s, decisions regarding nuclear weapons and related strategic programs were probably made by the Development Control Committee or by its equivalent.

coordinated and controlled money matters as well as key strategic affairs. A. Q. Khan's most important patron in the government was Ishaq Khan. Dr A. Q. Khan's visits to Iran, Libya, and North Korea were made with the full knowledge of the ISI, and it is thus not credible that the Pakistani government did not know what was happening between KRL and these countries.<sup>30</sup>

Therefore, the claim that the military or Mr. Khan and his KRL worked out a deal with North Korea independent of civilian government does not hold much water.<sup>31</sup> The National Nuclear Command Authority, which supervises and controls the nuclear scientists and their activities, has strong civilian involvement.<sup>32</sup> The decision to acquire the Rodong missiles required the coordination of many governmental agencies. There is no way that the military or KRL or Mr. Khan could have done this independently. The decision to give nuclear technology to North Korea was sure to have international implications and effects. There is no agency in Pakistan that is strong enough to have thought of taking on world public opinion on their own without the support of the civilian government and its diplomatic branch.<sup>33</sup>

There is another argument among analysts that North Korea might

30 It is reported that Dr. Khan had visited Libya seven times and North Korea 13 times.

31 General Pervez Musharraf, who now claims that Dr. Khan acted purely out of "greed," was definitely aware of the basic facts about how funds were collected for the formation of the Engineering Research Laboratory (ERL) in July 1976. The finance for the project was arranged by the then Prime Minister Z. A. Bhutto, from Libya, Iraq, and Saudi Arabia in return for the promise that Dr. Khan would develop an "Islamic bomb" for possible use against Israel.

32 The National Command Authority is comprised of three divisions: the Weapons Development Control Committee, the Weapons Employment Control Committee and the Strategic Plans Committee. The Strategic Plans Committee acts as secretariat for the NCA. The Weapons Development Control Committee is comprised of all the top military brass and the important scientific organizations related with Pakistan's nuclear program. The head of Pakistan's government leads the Weapons Employment Control Committee. Thus although the military dominates the nuclear program in Pakistan, it is somewhat difficult to suggest that something of this national importance could have happened without the direct or indirect approval of the prime minister.

33 *Pakistan and North Korea*, IISS.

have recruited the Pakistani specialists without the approval of the Pakistani government, as it tried to do with the Russian scientists. However this argument also does not hold much water, as Pakistani nuclear scientists enjoy very high social status in the country and are highly-paid by the government for their services to the nation. There would thus seem to be little possible incentive for them to leave their prestigious posts and relocate to a remote, poverty-stricken region such as North Korea.<sup>34</sup>

U.S. government officials have claimed recently that they have suspected for some time that North Korea has been pursuing a uranium enrichment program for several years now. Based on these intelligence reports President Bush has ordered a complete review of the North Korean nuclear program. During this review the Pakistani connections have been confirmed yet again. Some of the important factors which led the American intelligence to this conclusion were: a report which a British intelligence officer obtained from the Pakistani Embassy in London contained crucial information about the Pakistan-North Korean connection; the claims by retired Pakistani officials that they had tracked questionable shipments to North Korea that may have contained centrifuge uranium enrichment technology between the DPRK and Pakistan; the naming by Indian defense officials of the private airline associated with the Pakistan Inter-service Intelligence Division that might have been used to transport equipment technology to North Korea; and finally the similarity between the centrifuge designs that North Korea is using and Pakistan's centrifuge designs. Analysts are asking how it is possible that North Korea, with no history or experience in the uranium enrichment process, can suddenly possess such a

34 On balance, it seems plausible that the Pakistani military and the KRL would have been complicit in the "gas centrifuge for missile deal" with Pyongyang. Their decision is also likely to have had the tacit, if not formal approval, of the DCC or its equivalent, the prime minister, or in the absence of a civilian government, the president. However, if the military had reached a decision independently, this would imply that any assurances on proliferation issues made by Pakistan's civilian leaders and diplomats would lack final authority. This interpretation has reopened a debate on the issue of whether Islamabad might transfer nuclear and missile technologies to wealthy Islamic states in the Persian Gulf. Ibid.

sophisticated program within such a short time.<sup>35</sup> Clearly it was getting a helping hand from outside. And the only country with the means and motives to provide this technology to North Korea is Pakistan.<sup>36</sup>

Apart from Pakistan, another country that helped North Korea develop its nuclear and missiles programs is China. Without Chinese assistance, North Korea could not have developed its long-range missiles. In 1994 it was reported in the media that the American Defense Intelligence Agency had claimed that one stage of the new North Korean missile was a replica of the Chinese CSS-2 missile. The DIA was quoted as saying that “the only way they [North Korean engineers] would know how to build something the size of the CSS-2 is either by physical transfer of such a beast, or of engineers familiar with the program.”<sup>37</sup>

Pakistan has also benefited from China’s nuclear expertise. Pakistan’s gas centrifuge nuclear weapons program closely resembles the Chinese nuclear program. The gas centrifuge nuclear enrichment process requires ring magnets for its operation and the P.R.C. is the world leader in samarium-cobalt ring magnets. In 1996, Beijing is said to have delivered thousands of ring magnets to Pakistan.

In the beginning North Korea had started with a plutonium-based nuclear weapons program. But after the Agreed Framework with the United States in 1994 halted this program, it took to a uranium-based program. It has abundant natural uranium but no technology to produce an enriched uranium bomb. Pakistan, which acquired this technology from China earlier in the decade, was the natural choice of North Korea.

It has been widely reported in the American media<sup>38</sup> that American-

35 North Korea is technologically far too backward to be able to have developed gas centrifuge-based uranium enrichment on its own. Even India has at best only had limited success with this.

36 For further insights into the nuclear barter between North Korea and Pakistan see, David E. Sanger, “In North Korea and Pakistan, Deep Roots of Nuclear Barter,” *New York Times*, Nov. 24, 2002.

37 This linkage between North Korea-China-Pakistan has been very strongly made by Edward Timperlake and William C. Triplett, II in their numerous writings in the U.S. and other Western media. Their most well-known work, *Red Dragon Rising*, details the security threat that a rising China poses to America and its allies in Asia.

built C-130 transport aircraft of the Pakistan Air Force have been shuttling between Islamabad and Pyongyang, trading nuclear enrichment technology and equipment for long-range missiles as recently as July 2002. China helped in these flights by providing refueling facilities to C-130s at PLA Air Force bases in Western China for both incoming and outgoing flights to North Korea. From the reports it is not clear if additional cargo was loaded while they were on the ground in China. However, given the track record of China, it would be no surprise if some ring magnets had been added on the Islamabad-to-Pyongyang leg, as well as some critical missile gear on the return to Pakistan.<sup>39</sup>

One prominent figure within the top Chinese hierarchy who has played an important role in the North Korea-China-Pakistan axis is Gen. Xiong Guangkai.<sup>40</sup> It is generally believed that Gen. Xiong is either the PLA broker for the North Korea-Pakistan swap process, or else he sits on an as-yet-unidentified committee that brokers this trade. In early August 1998 Gen. Xiong visited North Korea and within one month of the visit, the North fired a multi-stage missile over the Japanese home islands. The missile is considered of the same type North Korea gave to Pakistan.

In early 2002, Gen. Xiong also visited Islamabad and signed “Joint Military Production” and “Joint Defense” agreements with Pakistan. Analysts in Washington and New Delhi immediately wondered, “joint military production of what?” and “joint defense against whom?” After the visit the C-130s started making their regular Islamabad-Pyongyang runs. The intelligence community in India and United States strongly believed that Xiong is the vital link within the North Korea and Pakistan swap.

38 Both *Washington Times* and *New York Times* reported this news widely.

39 See Edward Timperlake and William C. Triplett, II, “N. Korea, Pakistan, China,” *Washington Post*, Dec. 8, 2002.

40 He is the People’s Republic of China’s deputy chief of staff for intelligence.

## U.S. Approach to External Linkage of the North Korean Nuclear Program

The American approach to an external linkage of the North Korean nuclear program has been full of confusion and very incomprehensible since the beginning of this program. The latest example of this confusion and lack of clarity came to the forefront when the United States, reacting to the latest revelations of the Pakistani scientist's involvement in the sale of nuclear technology took a very soft approach. Instead of taking the Pakistani government to task and making it account for the nuclear trade, it has declared that the issue is an "internal matter" of Pakistan. It failed to come down heavily on Pakistan and force it to reveal the whole truth to the world community.<sup>41</sup> This approach was confirmed earlier also when on March 24, 2003, the United States imposed sanctions against the A. Q. Khan Research Laboratories (KRL) of the Pakistan government and the Changgwang Sinyong Corporation of the North Korean government.<sup>42</sup> Initially, the U.S. State Department spokesperson Richard Boucher stated that the sanctions were imposed because of the KRL's contributions to efforts by an unnamed foreign "country, person or entity of proliferation concern" to develop weapons of mass destruction and that sanctions had also been slapped on North Korea for exporting missile technology.<sup>43</sup> But when Pakistan challenged the American statement and Mr. Musharraf accused the United States of "cold-shouldering a friend," the U.S. State Department came out with a

41 Even though Pakistan is refusing permission for the international community to have access to the information regarding the activities of its nuclear scientists in the illicit nuclear trade, the United States is not doing much about it. It is just playing the role of a silent onlooker in the whole drama.

42 See Department of State press statement, "North Korea-Pakistan: Missile-Related Sanctions and Executive Order 12938 Penalties" by Philip T. Reeker, deputy spokesman, April 1, 2003. The statement declared that "the United States made a determination to impose penalties on both Changgwang Sinyong Corporation and KRL as a result of this specific missile-related transfer. These sanctions do not pertain to any other activity, including nuclear-related ones. We informed the Congress on March 12 that the Administration had carefully reviewed the facts relating to the possible transfer of nuclear technology from Pakistan to North Korea, and decided that the facts do not warrant the imposition of sanctions under applicable U.S. laws."

43 See *The Dawn*, April 2, 2003.

new declaration that "there has been some confusion regarding the penalties that were imposed on March 24 on the Pakistani entity KRL under Executive Order 12938, as amended, and the penalties that were imposed on March 24 on the North Korean entity, Changgwang Sinyong Corporation under the missile sanctions law. These sanctions were for a specific missile-related transfer." Its linkage to any nuclear trade between the two countries was completely denied.<sup>44</sup>

Despite the American backtracking the reports from its own intelligence agencies and foreign intelligence have indicated that Musharraf has continued to expand enrichment technology transfers to North Korea. British intelligence obtained a report from the Pakistan Embassy in London, which confirmed beyond doubt that the nuclear connection between the two countries has continued long after the present regime came to power in Pakistan in 1999.<sup>45</sup>

It is now becoming more and more clear that the American government has known about the North Korea-Pakistan connections for years but has kept mum for unknown reasons. But when Mr. Musharraf openly lied to Secretary of State Mr. Powell on Oct 18, 2002 that Pakistan did not transfer any technology to North Korea or for that matter to any other country, Mr. Powell could only say "I cannot talk about the past, what is important is the present."

It is often said the Bush administration is afraid to speak about the Pakistan-North Korea connection because it fears that Islamabad might end its cooperation in fighting Al-Qaeda operatives. It is true that the United States needs Pakistan's help in fighting terrorism, but the dependence on Pakistan that existed before September 11 has decreased since the United States put its own forces in Afghanistan. Furthermore, Pakistan cannot afford not to help the United States in its fight against terrorism for various reasons. The survival of the present

44 America's response to the latest revelations of Pakistani scientists' involvement in the sale of nuclear technology is mind-boggling. Instead of taking the Pakistani government to task and making it account for the nuclear trade it has declared that the issue is an internal matter of Pakistan.

45 It was the same report used by the Bush administration to extract North Korea's admission that it had an enrichment program. For details see, Selig S. Harrison, "U.S. Coddling of Pakistani Leader Just Encourages Nuclear Proliferation," *Mercury News*, Nov. 5, 2002, available at [www.ciponline.org/asia](http://www.ciponline.org/asia).

regime in Pakistan depends upon the economic help it gets from the United States and various multilateral-aid institutions controlled by the United States. So America does not need to negotiate with Pakistan from a position of weakness as it has done so far. It can afford to take a far tougher position toward Mr. Musharraf than it has taken up until now. It should use its leverage to bring about a rollback of his dictatorial powers, a transition to civilian rule and an end to cross-border incursions in Kashmir. The United States should also stop lionizing him and end the covering up of his transgressions.<sup>46</sup> America needs Pakistan, but it should not be forgotten that Pakistan needs the United States much more for its very survival.

It must be kept in mind by American officials that if Pakistan can sell nuclear technology to a state like North Korea, which its government has declared as a part of the “axis of evil,” then it could have also sold it to the Al-Qaeda network. It must be a matter of embarrassment for the American administration that Musharraf’s establishment is using American equipment meant to fight Al Qaeda and the Taliban in Afghanistan to secretly continue its own nuclear deal with North Korea.

As late as June 2002, the CIA delivered a report confirming North Korea’s nuclear ambitions to President Bush and his top advisers.<sup>47</sup> The report strongly made the case that despite the 1994 Geneva Agreement and various other international agreements with the United States and South Korea, North Korea was continuing its nuclear program and secretly obtaining the means to produce weapons-grade uranium. The document lucidly explained the role of the Pakistan connection. It stated that since 1997, Pakistan has been sharing sophisticated technology, warhead-design information, and weapons-testing data with the Pyongyang regime. It clearly stated that Pakistan was helping North Korea build its bomb.<sup>48</sup>

<sup>46</sup> Ibid.

<sup>47</sup> The document known as the National Intelligence Estimate was classified as Top Secret S.C.I. (Sensitive Compartmented Information), and its distribution within the government was tightly restricted. For complete analysis of this report and the current crisis with North Korea see, Seymour M. Hersh, “The Cold Test: What the Administration Knew about Pakistan and the North Korean Nuclear Program,” *The New Yorker*, Jan. 27, 2003.

Despite all the evidence and proof against Pakistan, the U.S. government has failed to act strongly. Instead of getting tougher with Pakistan, the Bush administration has in fact lifted the sanctions that had been imposed on Pakistan because of its nuclear-weapons program. According to some insiders in the Bush administration, the sanctions were not working anyway where it mattered most to stop the close links between some Pakistani nuclear scientists and radical Islamic groups. But still, they had some symbolic value. By removing these sanctions, however, the United States has given the wrong signal to the world community. The linkage between Al Qaeda and some Pakistani scientists has consistently dominated the Western media. It has been reported that in the past six years nine nuclear scientists have emigrated from Pakistan for better pay, and their current whereabouts are unknown. If there is one country in the world today which has been systematically violating with impunity all regulations relating to nuclear and missile proliferation and from which there is real danger of leakage of weapons of mass destructions and related technologies to pan-Islamic terrorists, that is Pakistan. Despite the clear dangers to world security, what is mind-boggling is the U.S. pretension that repeated violations of nuclear and missile-related regulations by Pakistan were the misdeeds of errant individual entities, for which the Pakistan state cannot be held responsible. How can the United States put its own security as a nation further at stake for some narrow strategic interests? How it can forget the lessons of September 11 so easily?

<sup>48</sup> The report specifically stated that in 1997 after the Pakistan economy went from bad to worse, the Pakistan government had no resources to pay for its missiles. To continue the trade with North Korea it decided to pay for missiles by providing “some of the know-how and specifics.” It also helped North Korea conduct a series of “cold tests,” simulated nuclear explosions using natural uranium, which are necessary to determine whether a nuclear device would detonate properly. It also gave the North Korean intelligence service advice on how to hide nuclear research from American satellites and U.S. and South Korean intelligence agents.

## The Way Out

North Korea's open admission to the United States that it is pursuing a uranium-based nuclear program violates the commitments it made under the Nuclear Non-Proliferation Treaty (NPT) and the 1994 agreed framework agreement with the United States. It also has the potential to destabilize the whole region. To stop this situation from further deterioration, America and its allies in the region must develop ways, diplomatic or otherwise, to confront North Korea and stop its nuclear program.

Today the North Korean nuclear crisis has come full circle and the Bush administration faces the similar basic realities that forced the Clinton administration to sign the 1994 Agreed Framework. It doesn't have any more choices than what were available to Mr. Clinton in the 1994 agreement. In any strategy to deal with the North Korean nuclear program, consensus among key regional allies such as Japan and Korea is essential. The United States must come to understand that the common approach to deal with the situation is paramount. In light of this, the United States, Korea and Japan have to agree on how to proceed with ongoing aid and economic support programs to North Korea. They also have to agree in principle what military contingencies might be required to prevent North Korea from successfully producing weapons-grade materials in violation of the NPT if diplomacy fails to achieve any negotiated settlement.

Today, North Korea is so close to acquiring a nuclear bomb (if it does not already have one). Despite its failed economic and political system it succeeded in getting nuclear technology from the outside world, particularly from Pakistan. However despite all the proof and evidence collected by its own intelligence sources, the United States has failed to act to put an end to this trade. And now, when North Korea has almost got a nuclear bomb and is also suspected of helping others rogue states to acquire the nuclear weapons the United States is trying to find some patch-up solutions to this increasingly complex problem, like the Proliferation Security Initiative.

Heavy fuel oil supplied under the 1994 agreement constitutes a very small part of North Korea's primary energy supply. Most of this supply is based on coal (two-thirds) and biomass (one-third). The

heavy fuel oil supplied by the United States under the Geneva Agreement has thus provided very little energy or economic value to North Korea. Those in America and elsewhere who think that it is misguided to cut off this oil supply to the North, and that they can stop North Korea's nuclear program are wrong—perhaps very wrong. North Korea's need to have nuclear weapons and long-range missiles is based on its strategic calculations of the security environment in the region. The United States and its allies cannot simply persuade North Korea to give up its nuclear weapons by supplying or stopping the supply of a few thousand tons of fuel or by any other patch-up or carrot-and-stick methods. It will take much more than that.

The United States is insisting on a multilateral approach to solve the nuclear crisis on the Korean Peninsula. But this approach to solve the crisis is not without flaws. Despite its insistence that it want to involve all the countries concerned in the region, it has failed to listen to the views of the other countries while dealing itself with North Korea. Both South Korea and Japan have their own priorities in dealing with North Korea. But America has failed to understand their concerns and has forced its own agenda on these countries with regard to North Korea's nuclear ambitions. This unilateral approach in the disguise of multilateralism has done more harm than good toward resolving the nuclear problem. Far from pushing North Korea toward the negotiating table, it has merely invited very angry reactions from North Korea. Frustrated that it cannot deal with the United States, North Korea has been pushing for direct links with both South Korea and Japan. If North Korea succeeds in its own moves, it could destroy the U.S.-Korea-Japan alliance. It could also have very serious consequences for the security of the region as a whole. A nuclear arms-race in the region cannot be ruled out.

Instead of adopting patch-up methods and temporary solutions, the United States should look at the North Korean nuclear and missile program in its entirety and come up with a comprehensive solution based on a true multilateral approach, where the concerns of all parties involved are taken into account. America as the lone superpower must avoid the temptation of bullying small and weaker North Korea. North Korea is a sovereign country of 20 million or so people. It has its genuine security needs and concerns. The United States must address those

needs and concerns and make North Korea feel secure if it wants Pyongyang to realistically be a long-term partner in the peace process on the Korean Peninsula.

One cannot expect any honest implementation of any agreement from an insecure North Korea. Any future agreement with North Korea is doomed to meet the fate of the 1994 agreement if the United States does not keep its part of the deal and does not make North Korea feel secure. The United States should not expect honesty from North Korea when it itself is not completely honest in its own dealings. In any future agreement with North Korea, America must keep its part of the bargain and remain above board. The KEDO story, in which the United States did not fully keep its part of the deal, must not be repeated. Honesty breeds honesty.

America also needs to broaden its approach to dealing with the crisis. It must include and consult all countries whose interests are threatened by North Korea's clandestine nuclear and missile programs. North Korea's related transactions with Pakistan threaten the security interests of not only South Korea and Japan, but also of India and the whole of South Asia. It thus makes India a legitimate dialogue partner in any future settlement with North Korea. Against this background, any future policy to confront North Korea's nuclear and missile capability has to be broad-based and must go beyond the purview of the U.S.-South Korea-Japan axis. The North Korean nuclear program has international implications and therefore needs the involvement and coordination of all countries which are affected by this program. The United States should therefore broaden its policy strategy, which includes and protects the interests of all affected parties. The American "go-it-alone" policy should disappear.