

Report

Second Tier Proliferation: The Case of Pakistan and North Korea

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From its very inception in the early 1970s, Pakistan's nuclear weapons program has elicited concerns in the West. Although earlier fears that Islamabad's nuclear ambitions would inevitably pave the way for an "Islamic bomb" remain unproven, new disclosures about its nuclear-for-missile trade with North Korea highlight the problems caused by proliferation in South Asia. South Asia is not simply the likely site of a potential nuclear war in the future; it is now also a source for sensitive nuclear and missile technologies. Pakistan remains the most unstable of all nuclear weapon powers. A number of issues raise questions about the long-term safety of the Pakistani nuclear arsenal. These include: Pakistan's economic destitution, shrinking strategic space, and brittle political institutions, as well as the absence of a domestic political consensus, and the growth of Islamic fundamentalism in Pakistan. More significantly, these issues throw into question the reliability of the custodians of that arsenal.

Islamabad's alleged trade of sensitive information on the gas centrifuge uranium enrichment process (one of the several technically complex methods for upgrading natural uranium into highly enriched uranium) and pos-

sibly related technologies in exchange for North Korean Nodong ballistic missiles indicates Pakistani resolve to create an operational nuclear strike force against India. But equally significant, the deal violates Pakistan's solemn assurances to the international community that it would abide by global nonproliferation norms.¹ That a section of Pakistan's military and the nuclear establishment would brazenly undertake such a venture, despite the risk of destabilizing relations with the United States or having Pakistan cast in the role of a pariah state, provides a glimpse into the prevailing sense of paranoia and strategic isolation in Islamabad. The barter deal with North Korea raises vexing questions about nuclear decisionmaking institutions and procedures in Pakistan. It also calls into question the extent to which military decisions on strategic policy in Pakistan are subject to review by civilian authorities and rival governmental institutions. Above all, Pakistan's proliferation behavior is evidence that in some circumstances, reliance on sanctions to manage proliferation carries the risk of producing negative outcomes.

This report reviews evidence in open-source literature about Pakistan's alleged nuclear and missile links with

North Korea. It analyzes the nature of nuclear decision-making in Pakistan, revisits Islamabad's proliferation record, and offers a preliminary assessment of how the new disclosures might affect U.S.-Pakistani relations in the future.

THE NATURE OF THE EVIDENCE

Concerns about Pakistan's probable nuclear links with North Korea go back to the summer of 1999, when proliferation analysts began publicly speculating about Pyongyang's likely gains from the Nodong ballistic missile sales to Islamabad.² Senior U.S. officials, who were briefed on intelligence about Pakistan's nuclear cooperation with North Korea, raised the issue at the highest levels of the Pakistani government prior to President Clinton's March 2000 visit to Islamabad.³ In June 2001, U.S. Deputy Secretary of State Richard Armitage drew attention to the role of retired Pakistani nuclear scientists in North Korea's nuclear program. At the time, however, Armitage's public warnings went largely unnoticed.⁴

Then came the bombshell in the form of a U.S. government-source leak to the *New York Times* in October 2002 that Pakistan was the likely source of North Korea gas centrifuge uranium enrichment program.⁵ That and subsequent leaks from U.S. government sources in other U.S. newspapers did not catalogue the precise nature and extent of Pakistan's nuclear cooperation with North Korea. However, a survey of reports published in open-source literature suggests that Pakistan's Khan Research Laboratories and its former director Dr. A.Q. Khan were the likely point of contact with Pyongyang. The nuclear-for-missile barter trade between Islamabad and Pyongyang probably began in 1997 and continued at least until July 2002. During this period, Pakistani cooperation with North Korea involved the exchange of nuclear personnel, the sharing of technical knowledge, design information on gas centrifuges, machinery, and possibly nuclear material.⁶

Since those leaks began in late 2002, senior Bush administration officials have remained tight-lipped. When questioned directly about the Pakistan-North Korea nuclear link, U.S. Secretary of State Colin Powell admitted that he had raised the issue with President Musharraf who offered him "400 percent assurance" that there was no ongoing program of nuclear cooperation with Pyongyang. When asked whether this applied to the past as well, Powell replied "we didn't talk about the past [...] and I don't want to get into who might have done what, when, and at what point in history."⁷ Analysts interpreted

the secretary's statements as tacit confirmation of Pakistan's past involvement.

However, Pakistan's foreign ministry has denied reports that there was any nuclear cooperation with North Korea. Similarly, Pakistan's ambassador to Washington, Ashraf Jehangir Qazi, has argued that there is "no smoking gun" to prove his country's complicity in North Korea's uranium enrichment program.⁸ One Pakistani newspaper also editorialized that reports in U.S. newspapers about Pakistan's alleged nuclear links with North Korea simply boil down to the claims of one state over another. Since claims are no substitute for hard evidence, Pakistan should be considered innocent until proven guilty.⁹

Although there is no evidence in open-source literature that independently links Pakistan with North Korea's gas centrifuge uranium enrichment program, there are still several reasons to doubt the Pakistani government's denials. During the past three decades, successive Pakistani governments have consistently denied that Pakistan ever obtained nuclear technologies or missile systems clandestinely or by circumventing nonproliferation export control laws in other countries. In the Pakistani government's public view, the documented accounts of such transfers are fiction; Pakistan's nuclear and ballistic missile programs are indigenous.¹⁰ Such denials, in the face of mounting evidence to the contrary, including repeated imposition of U.S. sanctions against Pakistani, Chinese, and North Korean entities for missile transfers to Pakistan, have eroded the credibility of official Pakistani pronouncements on the subject. Moreover, if Pakistan did indeed engage in a nuclear-for-missile barter deal, it would have strong reasons to keep it secret, for public acknowledgement of complicity would cast Pakistan in the role of an irresponsible nuclear power and jeopardize its relationship with Washington.

The absence of a "smoking gun" that would conclusively prove Pakistan's complicity should also not be construed to mean the lack of evidence. In the shadowy world of intelligence collection, there is often no "smoking gun." Intelligence analysts use fragmentary data, clues, and indirect inferences to create a larger picture. Even if the proverbial "smoking gun" did exist, U.S. government officials might be unwilling to share their findings for fear of revealing their sources or the U.S. government's methods of gathering intelligence.¹¹ Among other things, disclosures of any hard evidence to the American public or Congress would have the potential of derailing Washington's strategic alliance with Islamabad in the war against the Taliban and Al Qaeda.

Pakistan's acquisition of Nodong ballistic missiles from North Korea also raises inevitable questions about what North Korea gained from transferring complete ballistic missile systems and technologies to Pakistan.¹² Money was a distinct possibility. Ballistic missiles were North Korea's largest source of foreign exchange in the early and mid-1990s. Although the precise monetary value of the Nodong purchase is unknown, Pakistan is believed to have obtained approximately 12-25 missiles from North Korea.¹³ One way of estimating the value of the deal would be to compare it with Saudi Arabia's acquisition of CSS-2 ballistic missiles from China in the late 1980s. Riyadh paid \$3 billion for approximately 36-40 missiles.¹⁴ Pakistan's Nodong deal, which probably included technology transfers or some form of licensed production, would have involved an equivalent sum. Given the clandestine nature of the trade, and the scarcity of medium-range ballistic missiles in the international market, the price could have been higher. However, thanks to the poor performance of Pakistan's economy as well as the termination of U.S. economic and military aid, Islamabad's ability to make large cash payments for military purchases was limited.¹⁵ Throughout the 1990s, Pakistan sought economic bailouts from the IMF. Thus it is highly doubtful that Pakistan could have paid for its missile acquisitions from North Korea entirely in cash, unless such payments were underwritten by an external sponsor, such as Saudi Arabia, which is alleged to have supported Pakistan's bid for nuclear weapons during the 1980s.¹⁶

Analysts suggest that one probable reason for North Korea's transfer would be to obtain test data from the missile flight tests conducted in Pakistan. North Korea probably did obtain test data from those tests. But the need for test data was unlikely to have been a powerful motivating factor for the sale. North Korea conducted the first flight test of the Nodong in 1993 and only agreed to a moratorium on further flight tests in September 1999, a year after it tested the longer-range Taepodong rocket.¹⁷ Thus North Korea could have tested the Nodong extensively between 1993 and 1999 on its own; there was little need for flight test data from subsequent tests in Pakistan. Furthermore, Pakistan undoubtedly wanted to purchase an operational and reliable weapon system, not one that was under development. There is also inferential evidence to suggest that the Nodong was not developed by North Korea indigenously. Rather, the missile is of Russian design, and North Korea either obtained key components and missile parts from Russia or developed it with close cooperation from Russian entities. If correct, this conclu-

sion would explain the Nodong's short design-to-serial production cycle, the very limited number of flight tests in North Korea and Pakistan, as well as its apparent high reliability.¹⁸

THE HISTORY OF PAKISTANI-NORTH KOREAN PROLIFERATION LINKS

The story of the nuclear-for-missile trade between Pakistan and North Korea begins in the early 1990s. At the time, Pakistan had acquired the capability to build nuclear weapons using highly enriched uranium cores and was eagerly seeking nuclear delivery systems. The 40 F-16s that Pakistan acquired from the United States in the mid-1980s were an obvious delivery system of choice.¹⁹ However, after the Bush administration invoked the Pressler Amendment in October 1990 to terminate most military aid to Islamabad on grounds of the latter's proliferation advances, the long-term viability of a Pakistani nuclear deterrent centered on American strike aircraft became questionable.²⁰ Furthermore, despite their greater reliability, aircraft, unlike ballistic missiles, are vulnerable to air defenses.²¹ Islamabad's strategic establishment therefore concluded that in order for Pakistan to have a secure nuclear strike capability against India, it would need to invest in a ballistic missile force.

However, there was a huge gap between Islamabad's capabilities and ambitions. Pakistan did not have a diversified industrial infrastructure, sufficient scientific and engineering manpower, or a large civilian satellite launch vehicle program that could be used as a base to develop ballistic missiles. Unlike its larger and more powerful rival India, which by the late 1980s was well on its way toward developing first-generation ballistic missiles, Pakistani attempts using improvised designs from French sounding rockets ended in failure.²² From 1987 onwards, U.S.-led multinational efforts to restrict trade in ballistic and cruise missiles, and related dual-use items and technologies, placed additional obstacles in the path of Pakistan's attempts to develop an indigenous ballistic missile capability.²³

Confronted with these problems, Pakistan purchased a limited number of M-11 ballistic missiles from China in the early 1990s.²⁴ The M-11 ballistic missiles employ solid motors and can deliver a 500 kg payload over a distance of 300 km.²⁵ Subsequently, Pakistan also negotiated the sale of approximately 12-25 Nodong ballistic missiles from North Korea. The Nodong system, which belongs to the 1960s vintage, deploys a liquid-fuel engine and has the

advantage of having a longer range. The missile can apparently deliver a 700-1,000 kg payload over a distance of 1,000-1,300 km.²⁶

Pakistan's decision to simultaneously diversify its missile suppliers and invest in solid-motor and liquid-fuel engine systems was probably the result of a combination of external, technical, and domestic institutional factors. The M-11 is a short-range missile. From launch sites close to the Indo-Pakistani border, M-11 missiles can threaten only a very limited number of high value targets in western India. In order for Pakistan to hold targets in north, east, central, and southern India hostage to the threat of a nuclear strike, longer-range ballistic missiles are necessary. By the early 1990s, a potential motivation for Pakistan to seek alternative suppliers was Beijing's reluctance to sell longer-range missiles in the M-series. This reluctance resulted largely from U.S. pressure on China to comply with the guidelines of the Missile Technology Control Regime (MTCR), an export control regime founded by the United States and its allies in 1987 to restrict the spread of ballistic missiles.²⁷

Another reason for the diversification probably has to do with bureaucratic entrepreneurship and rivalry between the Pakistan Atomic Energy Commission (PAEC) and the Khan Research Laboratories (KRL), formerly led by Dr. A.Q. Khan. Khan led Pakistan's efforts to build a uranium enrichment plant to provide the fissile material for nuclear weapons. Although the fissile material for Pakistan's early nuclear devices came from Khan's Engineering Research Laboratory, the design and creation of the weapons themselves was the result of a much larger interdisciplinary team effort.²⁸ However, much to the chagrin of some of the senior scientists at PAEC, Khan insinuated himself as the "father" of Pakistan's bomb.²⁹ In the 1980s and 1990s, the PAEC's Directorate of Technical Development upstaged Khan's organization by taking the lead in the design, development, and testing of Pakistan's nuclear weapons. In addition, PAEC also oversaw the M-11 acquisition program from China.³⁰ It is thus entirely plausible that A.Q. Khan used his considerable personal clout within the Pakistani government to secure support for the Nodong program as a means of salvaging his organization's declining institutional influence.

As early as 1992, Pakistani officials visited North Korea to view a Nodong prototype.³¹ Then in May 1993, Pakistani engineers and scientists attended the Nodong test launch at Musudan-ri.³² When Pakistani Prime Minister Benazir Bhutto visited Pyongyang for a day in December 1993, the missile deal was likely to have been on

her agenda.³³ In late 1995, Marshal Ch'oe Gwang, the former Vice Chairman of North Korea's National Defense Commission, visited Pakistan and brokered the missile deal.³⁴

Details of Pakistan and North Korea's missile cooperation efforts surfaced in open-source literature throughout the 1990s. One such incident came to light in 1996 when Taiwanese officials seized 15 metric tons of ammonium perchlorate on a freighter bound from North Korea to Pakistan's Space and Upper Atmosphere Research Committee.³⁵ Ammonium perchlorate is an oxidizing agent used in most modern solid-propellant formulas. In 1997, Kang T'ae Yun, a North Korean diplomat based in Pakistan, who also worked for the Ch'anggwang Credit Bank and/or the Ch'anggwang 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. Maraging steel has applications in rocket motor casings as well as high-speed centrifuges used in the gas centrifuge uranium enrichment process.³⁶

Foreign intelligence agencies began monitoring the increased frequency of cargo flights between North Korea and Pakistan in the fall of 1997. The frequency of flights increased from nearly three a month in the fall of that year to approximately three times that number in January 1998. North Korean telemetry crews reportedly traveled on some of these flights.³⁷ The missile cooperation between Islamabad and Pyongyang finally became public when Pakistan tested a Nodong, rechristened as Ghauri, in April 1998. North Korean missile crews were present and apparently helped Pakistan with the test launch.³⁸ The U.S. State Department subsequently made a determination that this transfer violated the Missile Technology Control Regime and imposed sanctions on Pakistan's Khan Research Laboratories and North Korea's Ch'anggwang Trading Company.³⁹ However, missile cooperation between Islamabad and Pyongyang continued beyond 1998.⁴⁰ In 1999, Indian customs officials, acting on an intelligence tip-off, seized the North Korean ship *Ku Wol San* at the port of Kandla in Gujarat. Although the ship's manifest listed water purification equipment, a search revealed that it was carrying missile components and metal casings to Pakistan. Indian officials also discovered 22 technical manuals for Scud-type ballistic missiles.⁴¹

Evidence of the missile-for-uranium enrichment technology trade probably emerged sometime in 1999. But when U.S. officials raised the subject with Pakistani Prime Minister Nawaz Sharif, he denied any knowledge of it.⁴²

More direct evidence of Pakistan's involvement surfaced after General Musharraf deposed Sharif in a coup in October 1999. In early 2000, South Korean intelligence agencies detected North Korean efforts to purchase components for a uranium enrichment program; the technology bore striking similarities to the gas centrifuge enrichment process used by Pakistan's Khan Research Laboratories. Subsequent to this discovery, U.S. officials raised the issue with Pakistani state officials at the highest levels prior to President Bill Clinton's visit to Islamabad in March 2000. But cooperation between Pakistan and North Korea continued. In the summer of 2000, more evidence of North Korea's clandestine efforts to procure high-strength aluminum tubes to build centrifuges came to light. Based on this and other undisclosed evidence, U.S. intelligence analysts concluded by the summer of 2002 that Pakistan was indeed the source of Pyongyang's secret uranium enrichment program, that the program had progressed from research and development to the production phase, and that North Korea was probably two or three years away from producing enriched uranium for a weapons program.⁴³

THE ISSUE OF RESPONSIBILITY

The nuclear-for-missile swap between Islamabad and Pyongyang raises several unsettling questions. Were successive Pakistani governments complicit in the act? Were civilian regimes led by Benazir Bhutto (1988-1990 and 1993-1996) and Nawaz Sharif (1990-1993 and 1997-1999) aware of the actions of their nuclear and military bureaucracies? Or was this operation, as some analysts suggest, a clandestine one conducted by Dr. A.Q. Khan and the Khan Research Laboratories without formal and explicit authorization from relevant Pakistani governmental authorities?

Given the secrecy surrounding Pakistan's nuclear decisionmaking institutions and procedures, it is difficult to answer the above questions definitively. However, there is sufficient information available in open source literature to make plausible suppositions about the nature of such decisionmaking and assign responsibility to various agencies and institutions for those decisions.

Pakistan's nuclear weapons program has been closely coordinated and supervised by the Pakistani military ever since its overthrow of Zulfikar Ali Bhutto's civilian regime in a coup in 1977.⁴⁴ After the transition from military to democratic rule in December 1988, power was shared by a triumvirate composed of the president, the

army chief of staff, and the prime minister.⁴⁵ There is some evidence to suggest that civilian prime ministers might have been unaware of the minutiae of the nuclear weapons program; but they were certainly privy to key decisions and informed of important developments.⁴⁶

In Pakistan, decisions concerning nuclear weapons and related strategic assets are made by the National Command Authority's (NCA) Development Control Committee (DCC). The DCC is chaired by the head of the Pakistani government. Other members include the chairman of the joint chiefs of staff committee, the three service chiefs, the director general of the NCA's strategic plans division, and representatives from strategic organizations and the scientific community.⁴⁷ Although General Musharraf's government formally announced the creation of an NCA to manage Pakistan's nuclear forces in February 2000, the NCA is believed to have come into existence in the late 1990s.⁴⁸ Furthermore, throughout the 1980s and 1990s, prior to the formal creation of an NCA, decisions concerning the nuclear weapons program were made by the DCC or its equivalent.⁴⁹

The suggestion that Dr. A.Q. Khan and his labs worked out the deal with North Korea independently, and without any prior consensus within a section of the Pakistani government seems implausible for several reasons. First, although the nuclear establishment enjoys a high degree of internal autonomy in decisionmaking, that autonomy is not absolute; the nuclear scientists operate within the confines of a mandate, which makes them subject to supervision by the national command authority.⁵⁰ Second, the nuclear and missile programs are supervised by Pakistan's military. A technical, financial, and strategic evaluation was likely to have preceded the decision to acquire the Nodong; military organizations do not make decisions concerning the acquisition of nuclear strike systems lightly.

Third, any decision to transfer nuclear weapons-related technologies would have grave international ramifications. By undertaking such an effort, Pakistan would in effect be helping North Korea, which is an NPT signatory, violate its treaty obligations. The implications would have been infinitely worse if Islamabad and Pyongyang concluded the deal after the latter's decision to accept caps on its nuclear program under the Agreed Framework in the winter of 1994. Public knowledge of the trade had the potential of destroying Islamabad's political credibility and setting it on a collision course with the U.S.-led global nonproliferation community. Thus, it is difficult to imagine how Dr. A.Q. Khan could have made such a mo-

mentous decision independently without the benefit of a debate, albeit a limited one, at the highest levels of the Pakistani government.

Another theoretical possibility is that North Korea recruited Pakistani nuclear scientists without the Pakistani government's formal knowledge or approval. In the early 1990s, for example, North Korea nearly succeeded in recruiting Russian missile scientists and engineers by making competitive salary offers.⁵¹ But this approach was unlikely to have worked in the case of Pakistan. Conditions in Pakistan were very different from those in Russia in the early 1990s. Pakistan was not a collapsing state. And unlike Russia, where the imploding economy and budget cuts had created conditions for a potential brain drain among nuclear and missile scientists, Pakistan's nuclear scientists are well compensated by the standards of Pakistan's economy. Equally significant is the fact that quite unlike the case of the Pakistani nuclear scientists, Sultan Bashiruddin Mahmood and Chaudhry Abdul Majid, who allegedly cooperated with Al Qaeda in Afghanistan out of religious sympathies, no similar ideological grounds exist for cooperation with North Korea.⁵²

Therefore, in all likelihood, the Pakistani military and Khan Research Laboratories were 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 Pakistan's DCC or its equivalent, and the head of the Pakistani government at the time. And even in the unlikely scenario that Dr. A.Q. Khan made the trade independently, it does not absolve the Pakistani state of the responsibility of safeguarding its nuclear technologies.

ISLAMABAD'S PROLIFERATION RECORD

In the 1970s and early 1980s, it was predicted that a Pakistani nuclear capability would eventually pave the way for an "Islamic bomb."⁵³ Such fears were fueled by the post-1971 Middle East focus of Zulfikar Ali Bhutto's foreign policy; the Pakistani military's rendering of technical, training, and mercenary services to several Arab regimes; Libyan and possibly Saudi funding for Pakistan's nuclear weapons program in its early stages; and Bhutto's grandiose portrayal of Pakistan's nationalist nuclear ambitions as the quest for an "Islamic bomb."⁵⁴ However, fears that Pakistan would share its nuclear weapons, related technologies, and scientific expertise with its Islamic brethren proved to be overstated. In the end, Pakistan's nuclear weapons program turned out to be a nationalist enterprise run by secularists.⁵⁵

Nonetheless, reports about Pakistan's nuclear cooperation with several Middle Eastern states have persisted. In the late 1980s and early 1990s, there were allegations that Pakistan was helping Iran with uranium enrichment technology.⁵⁶ Other reports suggested that Iranian leaders had offered Pakistan billions of dollars in exchange for nuclear know-how; that Iranian scientists were undergoing training in Pakistan.⁵⁷ However, there is no evidence to substantiate these reports. With the possible exception of monetary gains, Islamabad had strong reasons against sharing nuclear technology with Tehran. Their sectarian differences apart, Islamabad and Tehran are rivals in Central Asia and Afghanistan. During the Afghan civil war each country backed rival Afghan factions. Furthermore, any nuclear assistance to Iran during this period would have jeopardized Pakistan's ties with the United States and ruined relations with Saudi Arabia.⁵⁸

Over the years, rumors have also arisen about Saudi Arabia's interest in nuclear weapons. In August 1994, a former Saudi diplomat, Mohammed A. al-Khilewi, asserted that Saudi Arabia had sought to purchase nuclear research reactors from the China Nuclear Energy Industry Corporation and a U.S. company in 1989, in an effort to obtain nuclear weapons.⁵⁹ Other evidence points in the direction of Saudi investments in Iraq's nuclear weapons program as well as tentative proposals for purchasing nuclear weapons technology from Pakistan.⁶⁰ The Saudi acquisition of 2,700 km-range CSS-2 ballistic missiles from China also raised speculation among proliferation specialists who feared that the real purpose of acquiring such delivery systems was to eventually marry them with Pakistan's nuclear capability.⁶¹

After Pakistan conducted nuclear tests in May 1998, Saudi Arabia provided Pakistan with financial assistance to prevent its economy from collapse in the wake of sanctions imposed by the United States. Dr. A.Q. Khan later admitted that the decision to conduct nuclear tests might have been impossible but for Saudi Arabia's generous assistance.⁶² As an acknowledgement of Pakistani gratitude, the Saudi defense minister, Prince Sultan ibn Abdul Aziz al-Saud, received a private tour of the Kahuta enrichment facility and a ballistic missile plant during his visit in 1999. American diplomats described the visit as "definitely eyebrow arching."⁶³ However, the U.S. government later received assurances from Riyadh that the kingdom was not seeking nuclear weapons or ballistic missiles.⁶⁴ The Pakistani foreign ministry also dismissed speculation about Saudi-Pakistani nuclear cooperation.⁶⁵

The best documented evidence of an alleged Pakistani offer to help another state develop nuclear weapons emerged in 1995. UN inspectors in Iraq discovered a memo dated October 6, 1990, from Section B.15 of Iraq's intelligence services to Section S.15 which cited an apparent offer from Pakistan's A.Q. Khan to help Iraq develop nuclear weapons. Although Iraqi officials verified the authenticity of the document, they downplayed its significance on grounds that the offer it described was probably part of a "sting" operation.⁶⁶ Islamabad also denied any involvement in Iraq's nuclear weapons program and after conducting its own internal investigation, described the episode as "fraud."⁶⁷

Thus far, rumors about Pakistan's alleged nuclear cooperation with Iran, Saudi Arabia, and Iraq remain unproven. But just because sufficient evidence has not been uncovered does not prove that it might not exist. Pakistan has enacted tough nuclear export control legislation and made solemn assurances to the international community of its commitment to abide by nonproliferation norms. However, the disclosures about its nuclear trade with North Korea leave the robustness of its commitments in doubt. If anything, such troubling behavior suggests that were Pakistan to find itself economically destitute or strategically isolated in the future, its leaders might once again renege on their promises.

IMPACT ON U.S.-PAKISTANI RELATIONS

The revelation that Pakistan is the source of North Korea's uranium enrichment technology is a public relations disaster for the Pakistani government; it has undermined Islamabad's assertions that Pakistan is a responsible nuclear power. However, it is unlikely that Pakistan's complicity in the deal will have any immediate negative repercussions on U.S.-Pakistani relations.⁶⁸ American intelligence analysts have had suspicions about such a trade for a long time. When evidence of the deal surfaced in the summer of 2000 or perhaps even earlier, senior U.S. government officials were briefed about it. However, public knowledge of Pakistan and North Korea's secret nuclear ties is likely to galvanize critics of the Bush administration's engagement policy with Pakistan in Congress, the media, as well as the think tanks that dot Washington's beltway.⁶⁹

Despite Pakistan's breach of the Symington Amendment,⁷⁰ the Bush administration has several reasons to avoid the traditional sanctions approach to seek modifications in Pakistan's proliferation behavior. After all, the

alleged nuclear technology transfers to North Korea occurred in the past; such transfers supposedly have ended. If President Musharraf's assertion that no cooperation is occurring at present is indeed true, then nothing would be achieved by applying sanctions retroactively. Furthermore, Pakistani nuclear and missile entities, including the Khan Research Laboratories, are still subject to technology denials by the U.S. Commerce Department's Bureau of Export Administration.⁷¹ Hence, additional sanctions would be superfluous.

After years of sanctions frenzy against India and Pakistan, Washington is now overcome by sanctions fatigue. The new thinking among senior U.S. officials is that although sanctions impose costs on the targeted state, the targeting state also loses leverage and influence.

The premise of the second Clinton administration and now the Bush administration is that given the prevailing nuclear realities in South Asia, the U.S. objective should be to restrain the arms competition in region and ensure that both India and Pakistan adopt tough export control laws and regulations to prevent the proliferation of nuclear and missile technologies to other countries or non-state actors and entities.⁷² Another unstated premise of U.S. nonproliferation policy is the belief that Pakistan's compliance with nuclear and missile export control laws, regulations, and norms can be secured only if Islamabad is convinced that the positive sum of its ties with the United States outweighs the marginal benefits of continued missile-for-uranium enrichment technology exchange with North Korea.

The Bush administration's soft approach toward Islamabad's violation of the Symington Amendment is also a function of its need to keep Pakistan on board in the war against Al Qaeda and Taliban. Unlike the 1980s and 1990s, when U.S. policies toward Pakistan were dominated by single issues such as the Cold War rivalry with the Soviet Union and nonproliferation, respectively, current American policy is multifaceted and more nuanced. The Bush administration seeks a politically stable and economically secure Pakistan, which is at peace with its neighbors. The administration also hopes that Pakistan will make a successful transition to democracy, remain a moderate Islamic state, and abide by nonproliferation norms and export control regulations.⁷³ On these grounds, Washington is likely to continue to engage Islamabad with the objective of terminating any possible residual nuclear cooperation with North Korea, and to ensure that such behavior is not repeated in the future.⁷⁴

PRELIMINARY CONCLUSIONS

Pakistan's alleged nuclear trade with North Korea in exchange for Nodong ballistic missiles suggests that it is determined to acquire an operational long-range nuclear strike force. That Islamabad kept such exchanges with Pyongyang alive at least as late as July 2002, even at the risk of destabilizing its relationship with the Bush administration, is an indicator of its commitment to expand such a capability despite the possible costs. In the late 1970s, Pakistan exploited lax nuclear export control regulations in Western Europe and North America to acquire plans and sub-components that were used to build a uranium enrichment facility.⁷⁵ In the next decade, President Zia's government leveraged Pakistan's position as a frontline state in the Afghan war against the Soviet Union to persuade the Reagan administration to turn a blind eye towards Islamabad's nuclear ambitions. When confronted with U.S. nonproliferation sanctions and international technology denials on nuclear-capable missile systems in the 1990s, Pakistani leaders decided to trade sensitive nuclear information, and perhaps technologies and materials, to overcome the obstacles to their strategic ambitions.

The barter deal with Pyongyang raises troubling questions about nuclear decisionmaking in Islamabad. There is circumstantial and inferential evidence to suggest that Dr. A. Q. Khan and the Khan Research Laboratories were not acting independently in the matter; top military and civilian leaders were likely to have been privy to the decision. But it is still unclear if the military consulted Pakistan's civilian leaders more widely, or whether civilian leaders simply abdicated authority and tacitly approved of the decision after being presented with a *fait accompli*. If the previous civilian leaders of Pakistan were active participants in the decision, then the Pakistani government is collectively liable for its dangerous actions. In this case, worries about Pakistan's proliferation policies will not recede even if civilian government is reinstated. On the other hand, if the military forced their decision on the civilian leadership or secured the latter's tacit consent, then it would suggest that Pakistan's nuclear decision making institutions and procedures were dangerously compartmentalized. Whatever the nature of decision-making in Islamabad, the issue of responsibility must not be overlooked, particularly during a period when the military is governing the country. The bottom line remains that the Pakistani state is finally responsible for the actions of all actors, institutions, and individuals within its jurisdiction.

Pakistan is not a signatory to the NPT. Therefore, its nuclear trade with North Korea does not constitute a violation of any international treaty or agreement to which it is a party. However, Islamabad has violated assurances to the United States and the international community that it would abide by nonproliferation norms and export control regulations. Insofar as the public record indicates, Pakistani leaders have willfully helped Pyongyang violate both its NPT obligations as well as the commitments that it made under the Agreed Framework. Pakistan's facilitation of North Korea's breach of these agreements carries the potential of unraveling the Agreed Framework and plunging Northeast Asia into another crisis.

The above pattern of behavior has reopened the debate on the issue of whether Islamabad can be trusted not to transfer nuclear and missile technologies to wealthy Islamic states in the Persian Gulf, especially if Iran were to acquire nuclear weapons in the future. Indeed, Islamabad's proliferation record suggests that, provided the right circumstances and incentives, Pakistan might become willing to engage in such strategic trade. In 1998, Pakistani nuclear scientist Samar Mubarakmand publicly suggested that Islamabad could sell conventionally armed ballistic missiles for economic gain.⁷⁶ During a visit by the UAE Minister of Information, Sheikh Abdullah Bin Zayid Al Nahyyan, to the Kahuta Research Laboratories in May 1999, Dr. A.Q. Khan declared that although Pakistan would not present nuclear weapons and missiles to the UAE on a "platter," it might consider training UAE's scientific personnel in the nuclear arts.⁷⁷ Other senior Pakistani scientists, such as Bashiruddin Mahmood, who allegedly met Osama Bin Laden and collaborated with Al Qaeda, have told friends in the past that although they are committed to safeguarding the Pakistani state's nuclear secrets, they might become willing at some stage to share their scientific expertise with other Islamic regimes.⁷⁸ The prevalence of such views, coupled with the historical record of Pakistan's clandestine nuclear and missile trade, raises doubts about the robustness of any nonproliferation commitments made by governments in Islamabad.

Finally, Pakistan's proliferation behavior highlights the limits of the sanctions approach in creating positive nonproliferation outcomes in some circumstances; such behavior is evidence that sanctions can be counterproductive. During the 1990s, the United States penalized Pakistan for its nuclear advances and terminated economic and military aid. Although sanctions raised the opportunity costs for acquiring a nuclear arsenal, they also exacerbated Islamabad's strategic discomfiture and persuaded

Pakistani leaders that the benefits of nuclear-for-missile trade with North Korea far exceeded the uncertain possibility that repairing relations with Washington might secure renewed economic and security benefits. Thus, sanctions in this setting resulted in a far worse outcome than was predicted at the time. The Bush administration's current soft approach towards Islamabad is calibrated by the immediate necessity of retaining the Musharraf regime's cooperation in the global war against terrorism. Of equal significance is Washington's belief that in order to ensure that Islamabad remains compliant with non-proliferation regulations and norms, the positive sum of its relationship with the United States must far exceed the marginal benefits of continuing nuclear and missile trade with "rogue" regimes.

But notwithstanding its current position as a valuable ally in the "war on terror," Pakistan's alleged nuclear links with North Korea have left many in Washington highly suspicious of Islamabad's long-term intentions. Such misgivings, when combined with the erosion in Pakistan's credibility, the shift in U.S. attention from Afghanistan to Iraq, and the looming nuclear crisis in North East Asia, are bound to have an adverse impact on U.S.-Pakistani relations in the medium-term.

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