

CHAPTER 1

PAKISTAN'S NUCLEAR WOES

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Raise the issue of Pakistan's nuclear program before almost any group of Western security analysts, and they are likely to throw up their hands. What might happen if the current Pakistani government is taken over by radicalized political forces sympathetic to the Taliban? Such a government, they fear, might share Pakistan's nuclear weapons materials and know-how with others, including terrorist organizations. Then there is the possibility that a more radical government might pick a war again with India. Could Pakistan prevail against India's superior conventional forces without threatening to resort to nuclear arms? If not, what, if anything, might persuade Pakistan to stand its nuclear forces down? There are no good answers to these questions and even fewer near or mid-term fixes against such contingencies. This, in turn, encourages a kind of policy fatalism with regard to Pakistan.

This book, which reflects research that the Nonproliferation Policy Education Center commissioned over the last 2 years, takes a different tack. Instead of asking questions that have few or no good answers, this volume tries to characterize specific nuclear problems that the ruling Pakistani government faces with the aim of establishing a base line set of challenges for remedial action. Its point of departure is to consider what nuclear challenges Pakistan will face if moderate forces remain in control of the government and no hot war breaks out against India. A second volume of commissioned research planned for

publication in 2008 will consider how best to address these challenges.

What proliferation risks might the current government still be tempted to take? What is required of Pakistan to maintain nuclear deterrence with India? What new vulnerabilities will the expansion of Pakistan's civilian nuclear sector require Islamabad to attend to? Finally, how daunting a task might it be to keep Pakistan's nuclear weapons assets from being seized or to take them back after having been seized? Each of these questions is tackled in the chapters that follow.

Along the way, a number of interesting discoveries are made. First, from the historical analyses done by Bruno Tetrakis and George Perkovich, we learn that despite the significant nuclear export control efforts of the current Pakistani government, it might well proliferate again. Why? The same reasons that previous Pakistani governments tolerated and, at times, even sanctioned the nuclear-rocket export-import activities of Dr. A. Q. Khan: Perceived strategic abandonment by the United States, lack of financing for its own strategic competition against India, insufficient civilian oversight of a politically influential military and intelligence services, and a perceived need to deflect negative international attention from Pakistan to third countries. (See Table 1 at the end of this chapter for a historical review.)

One or more of these factors were in play throughout the last 3 decades. Two still are. Certainly, the United States has done all it can to reassure Pakistani officials about Washington's commitment to Pakistan's security. Yet, there still is Pakistani cause for concern. Might Washington tie future security and economic assistance to Pakistani progress toward democratic elections and cracking down more severely against

radical Islamic groups in Pakistan? As for the matter of being isolated, Pakistan now has to be concerned not just about maintaining good relations with Washington, but somehow fending off the encircling efforts of India. Most recently, these activities included formal military-to-military ties with Iran; the construction of a major naval port at Chahbahar near Pakistan's own new naval base at Gwador; the joint construction with Iran of roads to Afghanistan (and Indian aid efforts to Afghanistan); the stationing of Indian intelligence officers at Zahedan, Iran close to Baluchistan rebel activities in Pakistan; the creation of an Indian air base in Tajikistan; Indian energy investments and commerce with Iran and countries in the Gulf; and continued Indian military, nuclear, and rocket enhancements. All of these developments have put Pakistan's military and political officials on edge.

As for oversight of the military and intelligence services, this remains an open question. The elections may give some indication of things to come, but for now the military and intelligence arms of the government are still in clear control of much of Pakistan's political, military, and economic activities. A new president may try to reduce the amount of power the military and intelligence sectors have over Pakistan but this is a long-term undertaking.

This, then, brings us to an enduring nuclear challenge Pakistan faces no matter who is running the government: What must Pakistan's military do to deter nuclear war against India? Greg Jones of RAND, Peter Lavoy, and Zia Mian and his coauthors all have different takes on what will be required. Mr. Jones takes a somewhat optimistic view. Pakistan and India currently have roughly the right level of forces and are unlikely to increase them dramatically for the

next 20 years. Pakistan's nuclear force requirements would have to grow dramatically, Mr. Jones notes, merely to destroy just 5 percent of India's population (This would require a five-fold increase in Pakistan's current nuclear force.) or only a relatively small portion of India's conventional forces (a task which would require a doubling of Pakistan's current nuclear forces). Enlarging Pakistan's forces to these levels, he argues, would be quite costly. Using history as a guide, Mr. Jones argues that India, meanwhile, seems unlikely to press Pakistan by building up its nuclear forces.

Perhaps, but others are not so certain. In his chapter, "Islamabad's Nuclear Posture: Its Premises and Implementation," Dr. Peter Lavoy notes that the prospect of the U.S. and Indian strategic partnership "shifting" the "strategic balance" announced in 2005 set off a series of nuclear alarms in Islamabad. The first of these fears is that India, with U.S. high-technology targeting and intelligence assistance, might knock out Pakistan's nuclear assets in a "preventative" attack. This, in turn, has already prompted Pakistan's National Command Authority to announce that if the nuclear deal alters the nuclear balance, the command would have to reevaluate Pakistan's commitment to minimum deterrence and to review its nuclear force requirements. This, in turn, will require making Pakistan's nuclear weapons assets even more survivable through increased mobility, hardening, and numbers. The second Pakistani worry is much more basic: The U.S.-India nuclear deal could enable India to outstrip Pakistan's capacity to make nuclear weapons.

How likely is this? The short answer is very. A much more detailed analysis can be found in the chapter by Zia Mian, A. H. Nayyar, R. Rajaraman, and M. V. Ramana entitled, "Fissile Materials in South Asia and

the Implications of the U.S.-India Nuclear Deal.” Here the authors detail how critical the import of additional uranium fuel might be to expand India’s ability to make more nuclear weapons while expanding its nuclear power industry. The authors also cite one Indian expert who suggests that India will attempt to build roughly 400 nuclear warheads—at least four times what the Pakistanis currently possess. Matching this number and controlling the nuclear system deployments that might be made would demand a good deal of Pakistan’s government and nuclear establishment. So far, the Pakistani government has hedged its bets against this contingency by beginning construction of a new plutonium production reactor and a new reprocessing plant.

Beyond this, Pakistan has announced plans to expand its own civilian nuclear power sector roughly 20-fold by the year 2030 to 8.8 gigawatts generating capacity. The idea would be to have a nuclear weapons-making mobilization base that could be used to make power if India did not make more weapons. This hedging strategy seems to be reasonably cautious. It, however, cannot be implemented without running several important attendant risks.

Besides being uncompetitive against non-nuclear energy alternatives, such a nuclear buildup is likely to increase the vulnerability of Pakistan’s civilian reactor sector to sabotage and attack. The good news is that the Pakistani government understands this point. In his detailed analysis, “Preventing Nuclear Terrorism in Pakistan,” Abdul Mannan, a senior official serving in Pakistan’s nuclear regulatory agency, details the ramifications of a terrorist attack against Pakistan’s civilian nuclear sector. Mr. Mannan believes attacks against Pakistan’s nuclear facilities are far less likely

to inflict damage than a possible attack against spent fuel that is likely to be shipped from Pakistan's power reactors to Pakistan's reprocessing plant. Fortunately, such attacks, even in or near Karachi, are unlikely to produce many fatalities. Unfortunately, they could contaminate a considerable amount of property, and will require the decontamination and quarantining of large numbers of people. To cope with these contingencies, Mr. Mannan calls for the establishment of an extensive list of civil defense measures to be taken. He is optimistic that Pakistan can take these steps to assure nuclear power's safe expansion.

Dr. Chaim Braun of Stanford's Center for International Security and Cooperation, though, is not so sure. In his analysis, "Security Issues Related to Pakistan's Future Nuclear Power Program," Dr. Braun examines Pakistan's nuclear reactor operating history, its ability to license new reactors and regulate their operation properly, to train sufficient numbers of new qualified nuclear operators and regulators for the planned expansion of Pakistan's nuclear power sector, and to screen this new staff to assure none have terrorist organization ties. His final assessment is troubling. Pakistan, he fears, will have great difficulty avoiding a major nuclear accident or terrorist-induced sabotage, as well as defending the planned number of civilian facilities against military attacks. Among his key concerns is Pakistan's current lack of qualified and security-screened nuclear personnel. To staff up for the planned nuclear reactor expansion, he estimates that Pakistan will need to find and train 1,000 qualified nuclear regulators and operators per year over the next 20 years. Dr. Braun also believes that Pakistan's nuclear expansion will create a large number of tempting terrorist targets—spent fuel ponds—all of which could be vulnerable to terrorist or military attacks.

This, then, suggests one of the most sensitive challenges an expanded nuclear program in Pakistan presents—the possible seizure of the plants by subnational groups and the need to take them back by force, if necessary. Thomas Donnelly examines this issue in his analysis, “Bad Options.” What we learn is that even in the case where the Pakistani government invites U.S. forces to help it to retake the most sensitive Pakistani nuclear facilities at Kahuta, the logistics and military challenges facing U.S. and Pakistani forces are extremely daunting. Besides the logistical challenges of landing a large enough force to retake the city-sized complex at Kahuta, the expeditionary force would have to be prepared to fight its way through a single access road and move quickly enough to assure no material was passed off to terrorist organizations or other opposing groups. Assuming success and taking control of the facility, many questions would remain. Is all the nuclear material that could be fashioned into bombs accounted for? How could we know? Would the United States hand the material it had secured back to the Pakistani government immediately or hold in trust until the dust of civil disorder had settled? If so, would we render it “safe” and what might this mean? To get the answers to these questions, Mr. Donnelly strongly recommends that the government of Pakistan and the United States work together closely on these issues now.

What is the upshot of all of this analysis? One bottom line is that the government of Pakistan has its hands full with more than enough nuclear issues even if it never goes to war against India, is attacked by Indian forces, or is overthrown by radical Islamic parties. Certainly, to deal with all of the nuclear issues these analyses have raised, one would need to have a

fairly robust and active national government capable of mastering nuclear regulation, nuclear physical security, emergency preparedness, peacetime military strategic planning, energy research and development, and electrical system planning. It is most unlikely that such a government would be the kind that could be overthrown or destabilized very easily.

This insight brings us to the second series of studies to be commissioned on Pakistan's nuclear future. These will focus on what can be done to reduce Pakistan's need to expand its civilian nuclear sector. On the one hand, what can be done with India and China to reduce Pakistan's justified fears that India will expand its own nuclear stockpile? Could more be done to address Pakistan's energy needs in a more cost effective manner without building additional nuclear generators? How might India and Pakistan cooperate in promoting less nuclear powered futures for both their countries and one in which the nuclear physical security threats are kept to a minimum for both countries? More generally, what can be done to reduce Pakistani fears of being encircled or overwhelmed by Indian conventional forces (the key propellants for possible future proliferation, nuclear buildups, and war)? What might be done to reduce the most likely escalation threats? Finally, what might be done to pacify Pakistani politics so that greater mutual confidence could be built with India? These questions will serve as the basis for the next volume.

	President	Prime Minister	Chief of Army Staff	PAEC / KRL	Events
1987	Zia ul-Haq	Muhammad Khan Junejo	Zia ul-Haq (MA Beg as VCoAS)	MA Khan / AQ Khan	AQ Khan visit to Iran (Jan.) Iran-Pakistan meeting in Dubai Iran-Pakistan cooperation agreement
1988	Zia ul-Haq (January 1 to August 17) Ghulam Ishaq Khan (August 17 to December 31)	Muhammad Khan Junejo (January 1 to May 29) Zia ul-Haq (June 9 to August 17) Benazir Bhutto (December 2 to December 31)	Zia ul-Haq (January 1 to August 17) Mirza Aslam Beg (August 17 to December 31)	MA Khan / AQ Khan	
1989	Ghulam Ishaq Khan	Benazir Bhutto	Mirza Aslam Beg	MA Khan / AQ Khan	
1990	Ghulam Ishaq Khan	Benazir Bhutto (January 1 to August 6) Ghulam Mustafa Jatoi (August 6 to November 6) Nawaz Sharif (November 6 to December 31)	Mirza Aslam Beg	MA Khan / AQ Khan	AQ Khan offer to Iraq Pressler sanctions (Oct.)
1991	Ghulam Ishaq Khan	Nawaz Sharif	Mirza Aslam Beg (January 1 to August 16) Asif Nawaz Janjua (August 16 to December 31)		Iran-Pakistan meeting AQ Khan visit to Iran
1992	Ghulam Ishaq Khan	Nawaz Sharif	Asif Nawaz Janjua		AQ Khan visit to Iran
1993	Ghulam Ishaq Khan (January 1 to July 17) Wasim Sajjad (July 17 to November 14) Farooq Leghari (November 14 to December 31)	Nawaz Sharif (January 1 to April 18) Balakh Sher (April 18 to May 26) Nawaz Sharif (May 26 to July 18) Moin Qureshi (July 18 to October 19) Benazir Bhutto (October 19 to December 31)	Asif Nawaz Janjua (January 1 to January 8) Abdul Wahid Kakar (January 8 to December 31)		Second round of Iran-Pakistan negotiations (Fall) Bhutto deal with North Korea (Dec.)
1994	Farooq Leghari	Benazir Bhutto	Abdul Wahid Kakar		Second negotiation between Iran and the AQ Khan network
1995	Farooq Leghari	Benazir Bhutto	Abdul Wahid Kakar		First AQ Khan meeting with Libya
1996	Farooq Leghari	Benazir Bhutto (January 1 to November 5) Miraj Khalid (November 5 to December 31)	Abdul Wahid Kakar (January 1 to December 1) Jehangir Karamat (December 1 to December 31)		Possible 'nukes' deal with North Korea

Table 1. Pakistani Leadership and Nuclear Exports, 1987-2002.

	President	Prime Minister	Chief of Army Staff	PAEC / KRL	Events
1997	Farooq Leghari (January 1 to December 2) Wasim Sajjad (December 2 to December 31)	Miraj Khalid (January 1 to February 17) Nawaz Sharif (February 17 to October 12)	Jehangir Karamat		Libya-Pakistan meeting in Istanbul AQ Khan visit to Libya Shipment to Libya Karamat visit to DPRK
1998	Muhammad Rafiq Tarar	Nawaz Sharif	Jehangir Karamat (January 1 to October 7) Pervez Musharraf (October 7 to December 31)		
1999	Muhammad Rafiq Tarar	Nawaz Sharif (January 1 to October 12) Pervez Musharraf (October 12 to December 31 as Chief Executive)	Pervez Musharraf		AQ Khan visit to North Korea
2000		Pervez Musharraf	Pervez Musharraf		Final deal with Libya Shipment to Libya
2001					Shipment to Libya
2002					Shipment to Libya (including weapon design?) AQ Khan visit to North Korea

Table 1. Pakistani Leadership and Nuclear Exports, 1987-2002 (concluded).