

# Rogue or Responsible Nuclear Power? Making Sense of Pakistan's Nuclear Practices

*Strategic Insights*, Volume III, Issue 2 (February 2004)

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*Strategic Insights* is a monthly electronic journal produced by the [Center for Contemporary Conflict](#) at the [Naval Postgraduate School](#) in Monterey, California. The views expressed here are those of the author(s) and do not necessarily represent the views of NPS, the Department of Defense, or the U.S. Government.

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Pakistan's alleged assistance to the nuclear weapons programs of North Korea, Iran and Libya represents a shocking break with past nuclear export practices and, if true, an unprecedented threat to international security.

Soon after the dawn of the nuclear age, American experts predicted that the world would contain more than twenty or thirty nuclear-armed countries.<sup>[2]</sup> Today fewer than ten nations possess the atom's awesome destructive power. This is not because nuclear science is particularly mysterious (most of its puzzles were unlocked decades ago), but rather because after Washington unintentionally helped India develop nuclear arms and Moscow supported China's nuclear ambitions, the world's nuclear energy producers have jealously guarded the materials and technologies needed to build nuclear bombs.

Although the nuclear export controls implemented as part of the nuclear nonproliferation regime generally have slowed the international spread of nuclear weapons, they have by no means stopped the illicit diffusion of nuclear weapons technology and materials. Since the early 1970s, nuclear knowledge has spread to more individuals and countries around the world. Part of the reason for this is the inexorable diffusion of scientific know-how.

Another key component of this spread is that nuclear technology suppliers' cartels have forced countries seeking nuclear weapons to develop indigenous programs to produce more of the components needed to enrich uranium or separate plutonium for the manufacture of nuclear explosives. Three decades of supplier controls have meant that a growing amount of nuclear weapons technology is available through back channels and black markets. This has made the challenge of controlling nuclear proliferation much more difficult.

## **Pakistan's Painstaking Effort to Become a Nuclear Power**

The nuclear nonproliferation regime always had fairly weak incentives and controls to influence the demand for nuclear weapons. Bilateral alliances and normative restraints, such as the Nuclear Nonproliferation Treaty (NPT), mildly discouraged countries from pursuing nuclear weaponry. The strength of the system was based on the control of technology by those few states that had mastered it. But a country like Pakistan, facing strategic challenges only answerable with nuclear weapons, would seek to circumvent the system at all costs.

When Pakistan set out to become a nuclear power in the early 1970s, it found itself squarely at odds with much of the rest of the world, which was focused instead on stopping proliferation. The obstacles grew even higher when India's first nuclear explosive test in 1974 shocked the international community into putting real teeth in the nuclear nonproliferation regime. With legitimate routes of acquiring nuclear technology blocked, Pakistan turned to clandestine means to obtain the material and technology needed

to manufacture nuclear weapons. This inevitably meant cooperating with shady middlemen, financiers and front companies overseas.

By the mid-1980s Pakistani scientists had secretly built the country's first nuclear bomb.

That experience, it turns out, was just the beginning of the international intrigue surrounding Pakistan's nuclear weapons program. In recent weeks, each day has produced yet another dramatic twist as Pakistan responds to allegations that it, in turn, secretly shared its nuclear expertise with other nations, specifically North Korea, Iran and Libya.

The unfolding drama involves, among other things, an intercepted ship, top-secret investigative missions and word that Pakistan had detained more of its leading—and most popular—nuclear scientists, apparently to probe allegations that the men illicitly spread their knowledge of both the black market for nuclear technology and the steps required to covertly enrich uranium to weapon-grade levels.<sup>[3]</sup> The interrogation comes after evidence provided last year by the International Atomic Energy Agency forced Pakistan to acknowledge the possibility of past misdeeds.

On 23 January, President Pervez Musharraf went so far as to say, in an interview with CNN, that it appeared some scientists had shared nuclear designs. When asked if the government had authorized nuclear transfers to Iran, Musharraf said the scientists probably had acted for their own financial gain, and he discounted any government involvement.<sup>[4]</sup> Western officials, however, remain skeptical that such transfers could have occurred without the express consent—much less knowledge—of government officials.

If the investigation ultimately concludes nuclear technology was transferred to other nations, the challenge for Pakistan, as well as the United States and other Western powers, will be to determine how to help Pakistan become a more responsible nuclear power, rather than a rogue.

Even though opposition groups within Pakistan claim that the inquiry is being staged to appease the United States, Musharraf told a joint session of parliament a week ago that Pakistan cannot achieve its national objectives of boosting its economy and strengthening its might against India if it becomes isolated from the world. Musharraf also said Friday that Pakistan will "move against violators because they are enemies of the state."<sup>[5]</sup>

### **Allegations of Misdeeds**

Pakistan's nuclear conduct has long been controversial. When the South Asian country tested nuclear explosives and declared itself a nuclear weapon state in May 1998, the world viewed this as an unavoidable reaction to India's earlier nuclear tests. However, three years later, when it became known that two retired scientists previously associated with Pakistani nuclear research institutions had met with Osama bin Laden and other Al Qaeda officials in Afghanistan, new and deeper concerns arose over Pakistan's nuclear stewardship.<sup>[6]</sup>

Pakistan came under fire again in 2002 when the media reported that U.S. intelligence services discovered that North Korea, which already had enough plutonium for a few nuclear bombs, had received substantial foreign assistance for a uranium enrichment plant, which when operational could produce enough weapons-grade uranium for another two or more nuclear bombs per year.<sup>[7]</sup>

Western analysts suspect that North Korea gave Pakistan ballistic missile technology—which Pakistan could not obtain from Western sources—in exchange for Pakistan's help with uranium enrichment. While acknowledging missile aid, Musharraf denies that any nuclear exports to North Korea took place since he took office in October 1999.<sup>[8]</sup>

Other reports tie Pakistan to the uranium enrichment efforts of Iran and Libya. Washington learned from an Iranian opposition group in August 2002 that Iran was secretly building a large uranium centrifuge enrichment plant, and Iranian officials told the watchdog International Atomic Energy Agency last year that Pakistan had provided support. Centrifuges are the most common devices used for producing bomb-grade uranium from naturally occurring uranium.

That charge sparked a dramatic change in the position of Pakistan's leadership, from denial to investigation. After a ship carrying centrifuge parts to Libya was interdicted last October, Libyan officials told Western authorities that Pakistani scientists also were the source of some of their centrifuge designs.

### "Father" of the Bomb

Pakistan's probe becomes more intriguing each day. More than two dozen officials, including two retired army brigadiers, have been detained over the past several weeks. At the home of Abdul Qadeer Khan, the popular "father" of Pakistan's nuclear bomb, his former military assistant was arrested as he dined with his old boss. The government decided to question the top scientists after it sent secret teams to Iran and Libya to investigate allegations that the men had sought payment for nuclear secrets.

Khan reportedly has pointed fingers, alleging that Pakistan's army chief from 1988 to 1991, Gen. Aslam Beg, approved sharing nuclear technology with Iran. Although Beg rejects this, his well-known vision of a Pakistan-Iran-Afghanistan partnership and its "strategic defiance" of the West makes Khan's claim plausible.[\[9\]](#)

Alternatively, Khan could be attempting to cover up his own personal gains—or those of his deputies—by claiming state approval of his actions. Either way—whether the government was responsible for the alleged nuclear exports or whether it was unable to control the people with nuclear know-how—the country's shrewd path to the nuclear club provides clues to how it could be a recipient as well as a provider of nuclear secrets.

Pakistan's nuclear program was established in the 1970s with two competing laboratories, the Pakistan Atomic Energy Commission (PAEC) and the other Khan Research Laboratories (KRL) named after the legendary Dr. A Q Khan. With two organizations to police, governmental oversight was weak. And there were few scruples in the fierce contest.

The PAEC's effort to produce bomb-grade plutonium was blocked in 1978 when Washington pressured France to cancel its sale of a plutonium reprocessing facility. This opened the door for KRL to obtain unprecedented latitude and state resources in his bid to acquire foreign technology.

By the early 1980s, KRL had mastered not only the production of highly enriched uranium, but also the art of acquiring dual-use technology, sensitive materials and critical equipment through a web of seedy black-market ties. The international contacts and procurement techniques Khan acquired during this period would later become worth their weight in gold to other nuclear aspirants.

### Growing Ambition

In the 1980s, General Zia ul-Haq agreed with the United States to keep its nuclear program going at a slow pace. In exchange, the United States would bolster its ally in the anti-Soviet Afghan campaign with conventional capabilities, most notably by providing advanced fighter jets.

Zia ul-Haq's successor, General Beg, facing a dramatically changed strategic situation at the regional and international levels, reoriented Zia's policies, and brought Pakistan's nuclear capability to the forefront as a result of the unfolding 1990 Kashmir crisis. This was intended as a signal of Pakistan's seriousness to India and the United States, but it brought an unfortunate side effect.

The new prominence of Pakistani nuclear weapons forced then President Bush to refuse to certify Pakistan's non-possession status. In October 1990, the U.S. applied Pressler Amendment sanctions, halting all military aid to Pakistan, including a sale of F-16 aircraft. Without these jets, Pakistan looked elsewhere for missiles that could carry nuclear weapons.

Paradoxically, the end of the Cold War intensified Pakistan's strategic ambitions. Islamabad's military significance to the West plummeted with the defeat of the Soviets in Afghanistan and the thaw in relations between Washington and Moscow.

This period also saw Pakistan return to democracy. From 1988 to 1997, power was shared among a troika: the president, the prime minister and the army chief. The diffusion of authority enabled national security organizations to manipulate the system and become nearly autonomous. In this environment, Khan would have needed to convince only one of the power centers that sharing nuclear technology with foreign entities would be in Pakistan's interest. He could have argued that parting with nuclear know-how was needed to obtain additional funding or access to new clandestine networks for procuring still-elusive materials and technology. The current inquiry is asking whether Khan and his associates sold such precious information or other nuclear technology for personal gain.

As long as Khan's group delivered the goods, no state authority questioned its tactics. But the 1998 nuclear tests put the spotlight squarely on Pakistan's nuclear conduct; it now was expected to prove itself as a responsible nuclear power. During the first term of the Clinton Administration, the United States attempted to convince Pakistan of the benefits of nuclear "rollback". This objective continued until the indefinite extension of the NPT in 1995, after which the policy shifted to bring Pakistan and India into the regime through two other treaty instruments, the Fissile Material Cutoff Treaty and the Comprehensive Test Ban Treaty.

The United States played a critical role in changing Pakistan's nuclear practices after 1998. After the May 1998 nuclear tests, Washington refocused its efforts on Islamabad and New Delhi with an aim toward creating a four-legged strategic restraint regime, composed of adhering to the comprehensive test ban, commencing fissile material cutoff, non-deployment and developmental restraints on nuclear weapons and missiles, and, lastly, strengthening nuclear- and missile-related export controls. For this last objective, U.S. export control teams exchanged information with Pakistan on regulatory procedures aimed at preventing "intangible transfers"—where knowledge rather than material is transmitted.

In February 2000, Pakistan revealed a new nuclear command and control structure to show it was operationally prepared to face India's growing military threat and to prove that it could be a responsible custodian of nuclear weapons. Pakistan announced a new "National Command Authority" which would rely on the Strategic Plans Division (SPD) to act as its secretariat.

SPD integrated all strategic bodies into a coherent system. While establishing command over operational forces proved easy, achieving control over feuding laboratories was vexing. However, the government eventually established strict approval procedures and credible accounting and auditing practices, coordinated activities between strategic organizations, streamlined benefits for scientists and technicians, controlled media appearances and foreign travel, established tight security procedures, and coordinated with intelligence agencies to ensure the reliability of personnel. Any foreign purchases or sales now required approval by the Development Control Committee, chaired by the President and the Prime Minister.

As the government tightened its control over all nuclear and missile-related organizations, Khan's laboratory resisted. This prompted the Musharraf government to replace the top officials of Khan's lab in 2001 and to appoint Khan to a ceremonial post.[\[10\]](#)

In addition, the government established rigorous accounting and auditing practices and announced its intent to create a program to test the reliability of all soldiers and civilians with access to nuclear

technology and weapons, emulating the Personnel Reliability Program (PRP) in the United States.<sup>[11]</sup> Since then, especially after the September 11, 2001 attacks, Pakistan has tightened security over its nuclear establishment, and it must continue to implement long-overdue reforms.

### Responsible Nuclear Ownership

It is in America's interest not to let Pakistan and Musharraf falter. If Pakistan lost all meaningful contact with the West, radical internal forces could prevail and the country could become a haven for terrorists and a colossal exporter of weapons of mass destruction.

If Pakistan takes meaningful steps to identify how illicit nuclear transfers could have taken place in the past and to further institutionalize controls to prevent such misdeeds from reoccurring, the United States should share with Pakistan its experience in managing a nuclear weapons establishment. PRPs should be tailored to unique Pakistani requirements. In the past, Pakistan has exempted top personnel from psychological screenings, but it is now evident that all officials and scientists must be interviewed and psychologically tested.<sup>[12]</sup> The United States should offer assistance to secure and safeguard nuclear facilities.

Such cooperation, however, must respect both U.S. export control laws and Pakistan's need to maintain nuclear secrets.

Moreover, the two cannot do this alone. Many nations are involved in this scandal—as hosts for front companies, buyers, middle-men and others, and as silent players in an international defense market that constantly pressures itself to expand. The recent attention on Pakistan's proliferation practices, and any changes or improvements in proliferation controls that may result, will be futile without a willingness from other countries to crack down on their parts of the network.

A longer-term challenge will be to find ways to bring Pakistan—as well as India—into the NPT-based nuclear nonproliferation regime. A useful starting point would be to ask Pakistan and India to produce—and adhere to—public export control legislation to include responsibilities undertaken by other nuclear technology exporters.<sup>[13]</sup>

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