The accession of Bharatiya Janata Party (BJP) head Atal Bihari Vajpayee to Prime Minister of India in May 1996 renewed the possibility that India could conduct a nuclear test and upset the fragile nuclear balance in South Asia, as well as ongoing negotiations for a Comprehensive Test Ban Treaty (CTBT). The Hindu-nationalist BJP won the largest share of parliamentary seats in India’s April-May 1996 national elections and was asked by Indian President Shankar Dayal Sharma to form a government. Although the BJP was not able to form a governing coalition, their short-lived administration lead to fears that India would weaponize its “nuclear option.” What concerns diplomats in the United States and Pakistan is that the BJP has repeatedly called for India to conduct a nuclear test and to declare itself a nuclear power. With the BJP on the threshold of gaining power, the question of India’s nuclear intentions has resurfaced. This report examines the likelihood of an Indian nuclear test, the political and security factors driving that possibility, and the possible repercussions of such an outcome. The report includes maps of selected nuclear sites in India and Pakistan in order to illustrate the size and scope of the “nuclear dilemma” in South Asia.

CAUSES FOR CONCERN

Fears of an Indian nuclear test center around December 1995 reports in the U.S. media that India was preparing to conduct a nuclear test. U.S. intelligence sources reportedly stated that reconnaissance satellites had detected increased activity at Pokharan (see Figure 1), the site of India’s 1974 nuclear test, indicating preparations for a nuclear explosion. The activity included efforts to clear out a subterranean shaft for testing nuclear weapons and “possible preparations for instrumentation” to ascertain the results of that test. Keeping with India’s long-held policy of nuclear ambiguity, the Indian government originally denied the reports and then called them “totally speculative.” Indian Foreign Ministry spokesman Arif Khan said that the activities at Pokharan were probably “routine military exercises,” while Indian Foreign Minister Pranab Mukherjee denied that India intended to conduct a nuclear test.

Rumors of a possible test were linked by Pakistani observers to India’s 15th test of the potentially nuclear-capable Prithvi missile on January 27, 1996, at the Interim Test Range in Chandipur. Indian defense officials added on January 16, 1996, that India would not only deploy the Prithvi, which is expected to occur by mid-1996, but that serial production of the missile had al-
Selected Indian Nuclear Facilities

Kota
220 MW PHWR–safeguarded;
220 MW PHWR–safeguarded;
235 MW PHWR (under construction)–unsafeguarded;
235 MW PHWR (under construction)–unsafeguarded;
heavy water production facility–unsafeguarded

Pokhran
Nuclear test site

Baroda
Heavy water production plant–unsafeguarded

Hazira
Heavy water production plant–unsafeguarded

Kakrapar
235 MW PHWR–unsafeguarded;
235 MW PHWR–unsafeguarded

Tarapur
Two 160 MW BWRs–safeguarded;
Two 500 MW PHWRs (under construction)–unsafeguarded;
fuel fabrication facility–unsafeguarded;
Prefe reprocessing facility–unsafeguarded

Trombay
Bhabha Atomic Research Centre (BARC);
1 MW research reactor–unsafeguarded;
40 MW research reactor–unsafeguarded;
30 kW research reactor–unsafeguarded;
100 MW research reactor–unsafeguarded;
uranium conversion facility (UF6)–unsafeguarded;
fuel fabrication facility–unsafeguarded;
zirconium production pilot-plant;
heavy water pilot-plant–unsafeguarded;
pilot-scale uranium enrichment plant–unsafeguarded;
reprocessing facility–unsafeguarded

Bombay
Tata Institute of Fundamental Research

Kaiga
235 MW PHWR (under construction)–unsafeguarded;
235 MW PHWR–unsafeguarded

Thal-Vaishet
Heavy water production plant–unsafeguarded

Rattehalli
Uranium enrichment plant–unsafeguarded

Tuticorin
Heavy water production plant–unsafeguarded

Nangal
Heavy water production facility–unsafeguarded

Narora
235 MW PHWR–unsafeguarded;
235 MW PHWR–unsafeguarded

Meghalaya
Uranium mine and deposits

New Delhi

Calcutta
Saha Institute Of Nuclear Physics

Jaduguda
Uranium mining and milling site

Thalcher
Heavy water production facility–unsafeguarded

Indore
Centre for Advanced Technology:
laser development site

Indira Gandi Center for Atomic Research (IGCAR);
50 MW FBR–unsafeguarded;
reprocessing plant–unsafeguarded;
Reactor Research Center;
30 kW research reactor–unsafeguarded;
reprocessing facility–unsafeguarded

Kalpakkam
235 MW PHWR–unsafeguarded;
235 MW PHWR–unsafeguarded;
Indira Gandi Center for Atomic Research (IGCAR);
50 MW FBR–unsafeguarded;
reprocessing plant–unsafeguarded;
Reactor Research Center;
30 kW research reactor–unsafeguarded;
reprocessing facility–unsafeguarded

Sources: CNS Databases

Figure 1
ready begun.\textsuperscript{8} The Indian government has called the Prithvi a “tactical battlefield missile,”\textsuperscript{9} but denies any intention of arming it with a nuclear warhead.\textsuperscript{10} The Prithvi, with a range of up to 250 kilometers (km), is capable of targeting most of Pakistan’s major cities, but does not have sufficient range to reach China’s population centers.

\textbf{INDIA’S MOTIVATIONS}

Several international and domestic factors seem to be driving India’s nuclear weapons policy. Overall, Indian policymakers focus on the Chinese threat, with Pakistan in a secondary role. At present, China’s nuclear and missile capabilities outstrip those of India, which has neither the nuclear fire-power nor the delivery systems to pose a serious threat to the Chinese heartland. China, on the other hand, possesses the ability to wreak intolerable devastation on India at all levels of nuclear escalation. If these security considerations are then extrapolated to include the ramifications of a CTBT entering into force, India could find itself in a permanently inferior position vis-a-vis China and without a credible minimal nuclear deterrent. Such an outcome could prove intolerable for India.

With the major nuclear powers now pushing for a CTBT, India is being forced by strategic considerations to reassess its past decision not to conduct any further nuclear tests after its 1974 “peaceful nuclear explosion.”\textsuperscript{11} For India to modernize its nuclear arsenal, it must work on miniaturizing the nuclear warhead for deployment on ballistic missiles and upgrade its destructive power by developing a thermonuclear device. For this to occur, India requires data only available through a nuclear test. Access to data is particularly important for India because evidence suggests that there was uncertainty regarding the yield and reliability of the nuclear device used in the 1974 Pokharan test.\textsuperscript{12} Furthermore, the 1974 test was a small (12 to 15 kiloton yield) fission device, not the hydrogen or “boosted” nuclear weapon U.S. intelligence experts suspect India is developing.\textsuperscript{13} This view is supported by Bhabha Atomic Research Centre (BARC) Director Dr. A. N. Prasad, who has said that nuclear tests are “vital to validate theoretical models and for improvement of the [Indian] nuclear device.”\textsuperscript{14}

Domestic factors have also had a large influence on India’s nuclear policy. Faced by fierce pressure from the BJP to weaponize its “nuclear option” in the run-up to the April-May 1996 national elections, Prime Minister P.V. Narasimha Rao may have ordered the preparations at Pokharan in order to boost his domestic political popularity. By doing so, Rao may have been seeking to reap the domestic political benefits of appearing ready to conduct a nuclear test, or at least threatening to do so, without actually testing. An\textit{India Today}-Marg poll conducted in December 1995 showed that 62 percent of Indians approved of nuclear testing by India “to develop its nuclear-weapon capability.”\textsuperscript{15} Of those approving, 54 percent said they favored nuclear development even in the face of economic sanctions, while 68 percent said India should not forfeit its nuclear option unless other nations do the same. These feelings were exacerbated by the onetime exemption to the Pressler Amendment (the so-called “Brown Amendment”) passed on September 22, 1995 by the U.S. Congress, which provides for the transfer of $368 million in previously frozen U.S. military equipment and spare parts to Pakistan.

\textbf{PAKISTAN’S INITIAL RESPONSE}

\textsuperscript{1} Several locations have been named as uranium mining sites in this province. See\textit{The Times of India}, May 5, 1993, p. 21; in\textit{Proliferation Issues} (July 12, 1993), p. 11;\textit{Canberra Times}, “Tribes Withdraw Protest Against Uranium Mining,” August 23, 1993, p. 8.


\textsuperscript{5} This reprocessing facility was “cold” commissioned in March 1996 and is expected to begin “hot” operations by late 1996. See “Third Reprocessing Plant Opened At Kalpakkam,”\textit{Nuclear News}, May 1996, p. 43; “Third Reprocessing Plant Starts Up,”\textit{Nuclear Engineering International}, May 1996, p. 8.
**Selected Pakistani Nuclear Facilities**

- **Pakistan Institute of Nuclear Science and Technology (PINSTECH)**
  - 10 MW research reactor—safeguarded;
  - 27 kW research reactor—safeguarded;
  - Center for Nuclear Studies experimental-scale reprocessing facility (running?!)—unsafeguarded\(^1\);
  - small-scale reprocessing facility—unsafeguarded\(^2\)

- **Khushab**
  - 40 MW PHWR under construction—unsafeguarded
  - (may be site of tritium production facility)\(^5\)

- **Qabul Khel**
  - Future uranium mining site

- **Chashma**
  - 300 MW PWR under construction—will be safeguarded;
  - partially built reprocessing plant

- **Kundian**
  - Fuel fabrication facility—unsafeguarded

- **Mianwali**
  - Uranium exploration site

- **Chagai Hills**
  - Possible nuclear test site\(^6\)

- **Karachi**
  - 137 MW PHWR—safeguarded;
  - heavy water upgrading plant;
  - Karachi Nuclear Power Training Center

- **Dera Ghazi Khan**
  - Uranium hexafluoride (UF\(_6\)) conversion plant—unsafeguarded;
  - uranium milling site;
  - uranium mining site

- **Wah**
  - Potential nuclear weapons assembly site\(^3\)

- **Golra Sharif**
  - Uranium enrichment facility (under construction?!)—unsafeguarded\(^4\)

- **Kahuta**
  - Uranium enrichment plant—unsafeguarded;
  - Dr. A. Q. Khan Research Laboratories

- **Sihala**
  - Pilot-scale uranium enrichment plant—unsafeguarded\(^7\)

- **Lahore**
  - Uranium mining site

- **Multan**
  - Heavy water production facility—unsafeguarded

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**Figure 2**

Sources: CNS databases
Motivated by the need to alleviate Pakistan’s nuclear and conventional military inferiority vis-à-vis India, Islamabad is under intense pressure to match any Indian military development. Pakistani Prime Minister Benazir Bhutto and other officials have stated repeatedly that if India were to conduct a nuclear test, they would be forced to “follow suit.” Pakistan’s need to respond to an Indian test is even greater because, in the eyes of Indian nuclear scientists, Pakistan does not possess a credible nuclear weapon capability to act as a deterrent. The Prithvi missile test and subsequent Indian statements that the missile will be deployed soon only add to insecurity in Islamabad.

Aside from security concerns, domestic political pressure would undoubtedly force Bhutto to order a Pakistani nuclear test. The military, the most powerful political force in Pakistan, would demand a response in kind to an Indian test, even in the face of U.S. opposition or threatened sanctions. Such a move would also be domestically popular. A Gallup poll taken in February 1996, indicated that 80 percent of Pakistanis support a Pakistani nuclear test, if India tests first.

Evidence suggests that Pakistan is preparing for such a contingency. Pakistan hardened its stance vis-à-vis India following the December 1995 reports. On January 18, 1996, Bhutto said that Pakistan had achieved “parity” with India in its “capacity” to produce and deliver nuclear weapons. Furthermore, U.S. intelligence experts said on March 5, 1996, that satellite photographs led them to the conclusion that Pakistan was preparing to conduct its first nuclear test at Chagai Hills (see Figure 2). Excavation of the Chagai mountain site in Baluchistan province included removal of debris from a shaft that was dug years ago. While U.S. officials do not believe a Pakistani nuclear test is either imminent or even likely, only a few days or weeks would be required to conclude preparations if a decision to test were made by Islamabad. On the missile side, Pakistan is likely to meet any deployment of the Prithvi, which it considers “Pakistan specific,” with the deployment of Chinese-supplied M-11s. Pakistan is particularly sensitive about the Prithvi, and President Leghari has said that large-scale production of this missile would be “tantamount to deployment.”

U.S. RESPONSES TO INDIA AND PAKISTAN

The United States was initially successful in applying pressure on both India and Pakistan not to test, including threatening cessation of financial assistance. U.S. State Department officials advised the Indian government in December 1995 that any nuclear test would force the United States to invoke economic sanctions. By law, the Clinton administration would have to enforce the
1994 Glenn Amendment, which mandates the cessation of all economic and military aid, bank loans, credits, and export licenses to any nation other than the five declared nuclear powers that conducts a nuclear test. Under the legislation, the United States would seek to deny any World Bank or other multilateral international loans to the offending country, and the Clinton administration would likely pressure other major shareholders, such as Japan and Germany, to follow suit.

Until the recent Indian elections, the U.S. government appeared confident that India, and by implication Pakistan, would not conduct a nuclear test. Arms Control and Disarmament Agency Director John Holum said on January 19, 1996, that Indian officials had allayed U.S. fears of a possible test in private meetings. Equipment to monitor a possible test, however, has not been removed from Pokharan nor has the shaft at Pakistan’s Chagai site been refilled.

POSSIBLE OUTCOMES AND THEIR IMPLICATIONS

Any change in the nuclear status quo is likely to be initiated by India, which perceives itself to be under pressure to test before the CTBT enters into force. While reporting the activity at Pokharan, U.S. intelligence officials were uncertain whether India’s motivation is design-oriented (in which case a test could be years away) or political (in which case a test could occur at any time). If India were to test, Pakistan would follow suit and possibly declare itself a nuclear weapon state. The outcome of these events would impede efforts by the United States to secure a CTBT before the end of the year.

One possible scenario has India conducting a nuclear test while simultaneously agreeing to sign the CTBT. Under such a scenario, India would reap the military benefits of the test data while minimizing the political repercussions. India could argue that the test is not for weaponization purposes, but solely to keep open its nuclear option. Pakistan’s reaction would likely be to match India’s test and then sign the CTBT once India does; Pakistan has a stated policy that it is willing to sign both the CTBT and the nuclear Non-Proliferation Treaty if India also signs. Under a worst case scenario, other states, such as Iran and Egypt, may reconsider their support not only for a CTBT but also for the nuclear nonproliferation regime if either country tests.

In the meantime, India, the first nation to champion a CTBT as far back as 1954, has altered its position and now insists on including treaty language that calls for the eradication of all nuclear weapons within an agreed time frame. Indian Ambassador to the Conference on Disarmament Arundhati Ghose said: “To be meaningful, the treaty should be...linked through treaty language to the elimination of all nuclear weapons in a time-bound framework.” India, however, is willing to negotiate the actual time frame at a later date. In lieu of crossing the nuclear threshold, India is likely to continue to delay negotiations of a CTBT by demanding greater concessions from the nuclear weapon states. Without India’s signature, however, Pakistan will not sign a CTBT, leaving the possibility that two of the three (Israel being the other) undeclared nuclear powers will remain outside the treaty.