



The Development of India's Nuclear Program

By Major Andrew "Jack" Morgan

The development of nuclear weapons around the world interests the global community. Countries research and develop nuclear weapons for many reasons. This article contains an historical review of facts relating to one such country's nuclear-weapon development plan and describes the resulting impacts. It also provides a context for the current situation in that area.

India's nuclear-weapon program began as a peaceful sharing of technology under the Atoms for Peace nonproliferation program of the 1950s, which was a program designed to encourage civil use, ease nuclear fears, and limit nuclear-weapon research for military purposes. Initial nuclear technologies and facilities at the Bhabha Atomic Research Centre, Trombay, India, were easily converted from power generation purposes to potential weapon research and capability. North American countries shared technologies, equipment, and heavy water¹ in an effort to ease worldwide fears and stop the proliferation of nuclear-weapon research for war purposes.² The intent was to promote peaceful nuclear-power practices to stave off weapon research.

The impetus and subsequent research into the pursuit of a nuclear-weapon platform was for the purpose of defending India from various neighbors. The initial efforts to research and design nuclear weapons followed a 1962 border clash with China and a successful 1964 nuclear test in Beijing, China.³ Using existing facilities, "India made significant progress in refining its weapon design and fabrication capabilities, including reducing the size of weapons and increasing their efficiency and yield through boosted fission using tritium."⁴ The 1971 Indo-Pakistani War influenced India's resolve to test a nuclear device to deter and defend the country.⁵

India's desire for a nuclear weapon led to the development of a reprocessing facility at Trombay, and the plutonium produced there was used in India's first successful nuclear test on 18 May 1974.⁶ The Indian government described the

detonation as a "peaceful nuclear explosion."⁷ This "successful" test seemed to mollify the Indian leaders, and it served as a signal to their neighbors and the world that India was a nuclear power. Following this test, research was halted for a lengthy period of time.

The second series of nuclear tests, known as Operation Shatki, was conducted in 1998. Pakistan had successfully conducted missile tests; and within months, India resumed testing nuclear weapons. These tests followed a pattern similar to the test of 1974. On 11 and 13 May 1998, five nuclear weapons were tested. The Indian government claimed that the tests were a simultaneous detonation of a fission device (with a 12-kiloton yield), a thermonuclear device (with a 43-kiloton yield), and a subkiloton device.⁸ Based on seismic data, the world was not convinced that the yield was as great as the Indian government claimed; eventually, it was concluded that the weapons had not functioned as designed and they had failed to ignite during the second stage of testing.⁹

Most authorities in the world believe that India maintains less than one hundred nuclear weapons throughout the country, with the Prime Minister or his "designated successor(s)" holding release authority.¹⁰ The country has published doctrine directing non-first-strike use of nuclear weapons, but retained the capability and resolve to react to a nuclear incident.¹¹ India's current nuclear capabilities support the present employment doctrine. Therefore, an immediate nuclear response does not seem to be a consideration. India's non-first-strike policy states that "India shall pursue a doctrine of credible, minimum, nuclear deterrence. In this policy of 'retaliation only,' the survivability of our arsenal is critical. This is a dynamic concept related to the strategic environment, technological imperatives, and the needs of national security. The actual size components, deployment, and employment of nuclear forces will be decided in the light of these factors. India's peacetime posture aims at convincing any potential aggressor that (a) any threat of use of nuclear weapons

against India shall invoke measures to counter the threat and (b) any nuclear attack on India and its forces shall result in punitive retaliation with nuclear weapons to inflict damage unacceptable to the aggressor.”¹²

The doctrine also maintains that India “will not be the first to initiate a nuclear first strike, but will respond with punitive retaliation should deterrence fail.” In other words, India will not use nuclear weapons as an offensive means—a claim supported by the fact that the military is not involved in the nuclear process. Interestingly, the military is not involved in the development or administration of the nuclear-weapon program, and there has been no attempt to devise a military role for nuclear weapons or to seek military input for requirements.¹³

The technology, equipment, and supplies that the United States and Canada provided to initiate India’s nuclear-power program led to India’s nuclear-weapon research and, ultimately, to the 1974 nuclear detonation. The United States was angry at India for the nuclear-weapon test. Pursuant to the 1968 Treaty on the Nonproliferation of Nuclear Weapons (NPT), India had been classified as a non-nuclear-weapon state because it had not exploded a nuclear weapon before 1967. Only Britain, China, France, Russia, and the United States satisfied the NPT definition of a nuclear-weapon state because they had tested before 1967.¹⁴ The United States made several attempts to persuade India to sign the NPT to prevent the spread of nuclear weapons. If India had signed the NPT, the country would have been prohibited by the treaty from developing nuclear weapons. Although India did participate in the negotiation of the treaty, the country refused to join in when the treaty was opened for signature in 1968.¹⁵

According to National Security Archive Electronic Briefing Book Number 6, “The [United States] considered various options that might dissuade India from developing nuclear weapons, including scientific cooperation aimed at enhancing India’s national prestige. It also joined in cooperative arrangements with both India and Pakistan to monitor nuclear and missile developments in China and the Soviet Union. India, for its part, launched a campaign seeking security guarantees to shield it from Chinese nuclear attack, arguing that such assurances might make a nuclear-weapons program of its own unnecessary. Various options were proposed: U.S. guarantees, joint U.S.-Soviet guarantees, guarantees from all the nuclear states, British guarantees, or guarantees in conjunction with the nuclear nonproliferation treaty then being negotiated. U.S. policy makers seriously considered these proposals, although some doubted that they would deter India from developing a bomb.”¹⁶

The United States viewed India’s actions as hostile, rather than as “a case of a western-style democracy coming to the defense of a people being brutally persecuted by a military dictatorship for attempting to exercise its democratic rights.”¹⁷ The angry attitude of the United States during the nuclear crisis led to a series of reactions to India and its government. The U.S. dispatched an aircraft carrier battle group to the

Indian Ocean to exert pressure on India.¹⁸ This attempt at pressure was obscure and had little effect on India’s attitudes or actions. However, it had a negative effect on world opinion; a superpower was perceived to have attempted to coerce India in affairs affecting India’s vital interests. This became a rallying cry for nuclear-option advocates.¹⁹

The reaction of the U.S. Congress to the Indian nuclear tests resulted in 1978 amendments to the U.S. Atomic Energy Act of 1954. These amendments required that a non-nuclear-weapon state which received nuclear assistance from the United States promise not to use that assistance to make nuclear explosive devices, as Congress thought India had. Congress was determined that U.S. aid would not be used for nuclear-weapon research and expansion since the United States had provided atomic information dissemination oversight to India for peaceful uses, rather than for use with nuclear weapons. The far-reaching effects of these amendments prohibited the U.S. Executive Branch from providing additional nuclear assistance to India.²⁰

During the years leading up to 1998, the United States obtained more accurate intelligence concerning India’s intention to research and detonate additional nuclear weapons in 1998. According to the 1989 Congressional testimony of the Central Intelligence Agency (CIA) director, “indicators... tell us [that] India is interested in thermonuclear weapons capability.”²¹ The evidence stemmed from the fact that India was purifying lithium and lithium isotopes and producing tritium. In addition, India had obtained beryllium from West Germany.²² Once again, the United States and the world were faced with the challenge of pacifying India—now a reinvigorated nuclear power—while simultaneously attempting to prevent and convince other countries not to pursue nuclear weapons.²³

The United States once again reacted to the series of nuclear tests by placing economic sanctions on India.²⁴ The United Nations (UN) also reacted to this series of tests; a spokesperson stated that the UN had “learned with deep regret of the announcement that India had conducted three underground nuclear tests.”²⁵ Once again, critics believed that the United States was condemning this testing in one area of the world while secretly ignoring testing and stockpiling in other areas such as Israel. The result seemed to indicate that “other countries would just ignore the danger and line up to sign nuclear nonproliferation treaties and abide by them.”²⁶

The U.S. sanctions and prohibition of nuclear trade with India continued from 1974 to 2005. In 2005, President George W. Bush and Dr. Manmohan Singh, the prime minister of India, agreed to resume peaceful cooperation in matters related to nuclear energy.²⁷ The United States offered to provide India with uranium for nonmilitary, electricity-producing, nuclear reactors—but specifically not for nuclear weapons.²⁸ The plan was for India to buy the uranium, allow its nuclear facilities to be inspected to ensure that weapons grade uranium was not produced, cease testing of nuclear weapons, and “cooperate with the United States in other ways.”²⁹ This was the first such

agreement to be reached by the two countries since the 1974 reaction of President Richard M. Nixon and the 1998 sanctions by President William J. Clinton.

As a result of these actions, “Nuclear trade in India has recently revived [*sic*] up India’s global stance, offering an efficient model for trade. Once the negotiations with Russia, and possibly Canada, in nuclear commerce talks are done with, the government will soon open up the sector for the private players to participate,” said Mr. Kapil Sibal, Minister for Science and Technology and Earth Sciences in New Delhi.³⁰ The results of the negotiations with Russia include an agreement to build four additional atomic reactors in India.³¹

Endnotes:

¹“Heavy water” refers to water that contains the isotope deuterium in higher proportions than normal.

²“India: Nuclear Weapons,” Federation of American Scientists, <<http://www.fas.org/nuke/guide/india/nuke/>>, 8 November 2002, accessed on 9 April 2009.

³“Weapons of Mass Destruction (WMD): Nuclear Weapons,” <<http://www.globalsecurity.org/wmd/world/india/nuke.htm>>, 28 April 2005, accessed on 9 April 2009.

⁴Ibid.

⁵“India’s Nuclear Weapons Program—India’s First Bomb: 1967–1974,” Nuclear Weapon Archive, <<http://nuclearweaponarchive.org/India/IndiaFirstBomb.html>>, 30 March 2001, accessed on 9 April 2009.

⁶“India: Nuclear Weapons.”

⁷Ibid.

⁸Ibid.

⁹Ibid.

¹⁰Ibid.

¹¹Ibid.

¹²“Draft Report of National Security Advisory Board on Indian Nuclear Doctrine,” Federation of American Scientists, 17 August 1999, <<http://www.fas.org/nuke/guide/india/doctrine/990817-indnucl.d.htm>>, accessed on 9 April 2009.

¹³“India’s Nuclear Weapons Program—India’s First Bomb: 1967–1974.”

¹⁴George Bunn, “U.S.-India Nuclear Cooperation Agreement: Final Congressional Approval is Conditioned on Future Steps by India and Two International Organizations,” Lawyers Alliance for World Security, <<http://www.cdi.org/laws/india-us-122006.html>>, 20 December 2006, accessed on 9 April 2009.

¹⁵Ibid.

¹⁶Joyce Battle, “India and Pakistan—On the Nuclear Threshold,” National Security Archive Electronic Briefing Book No. 6, <<http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB6/index.html>>, accessed on 9 April 2009.

¹⁷“India’s Nuclear Weapons Program—India’s First Bomb: 1967–1974.”

¹⁸Ibid.

¹⁹Ibid.

²⁰Bunn.

²¹“India: Nuclear Weapons.”

²²Ibid.

²³“74 Test Had U.S. Worried Over Pak Reaction: Documents,” <<http://www.expressindia.com/latest-news/74-test-had-US-worried-over-Pak-reaction-Documents/253180/>>, accessed on 14 April 2009.

²⁴Ibid.

²⁵“World Reaction to the Indian Nuclear Tests,” James Martin Center for Nonproliferation Studies (CNS), <<http://cns.miis.edu/research/india/reaction.htm>>, accessed on 14 April 2009.

²⁶“Measured U.S. Reaction to Nuclear Tests Prompts Positive Asian Responses,” Washington Report on Middle East Affairs, <<http://www.washington-report.org/backissues/0998/9809050.html>>, accessed on 14 April 2009.

²⁷Bunn.

²⁸Ibid.

²⁹Ibid.

³⁰“Weapons of Mass Destruction (WMD): Nuclear Sector Will Open up to Private Enterprises,” <<http://www.globalsecurity.org/wmd/library/news/india/2008/india-081205-irna01.htm>>, 5 December 2008, accessed on 14 April 2009.

³¹“Weapons of Mass Destruction (WMD): India, Russia Sign Nuclear Cooperation Agreement,” <<http://www.globalsecurity.org/wmd/library/news/india/2008/india-081205-irna02.htm>>, accessed on 14 April 2009.

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