CHAPTER-3

POKHRA-I AND POKHRA-II

The emergence of China as fifth nuclear power in October 1964 constituted a significant threat to India’s territorial integrity and sovereignty. The strained relations between the two countries after the 1962 aggression sparked off an acrimonious debate on defence policy in the parliament. While speaking on the capital outlay of the Department of Atomic Energy in the Lok Sabha on March 23, 1963, Bade, a member of the Jan Sangh Party strongly pleaded that India should manufacture atomic weapons in view of the threats posed by the Chinese on the borders. But the government opposed this.

Prime Minister told to the parliament that it was entirely wrong to think that by producing a bomb, a nuclear bomb, our defence is strengthened thereby.

However, the country’s public opinion felt the need of manufacturing nuclear weapons, which they believed would neither violate the Test Ban Treaty of 1963 (as the underground explosion were allowed) nor would be repugnant to the philosophy and spirit of non-alignment.

In September 1965, 86 members of parliament belonging to the different political parties pleaded with the then Prime Minister Lal Bahadur Shastri for


\[221\] Ibid., 5917-26.

\[222\] Foreign Policy of India, Test of Documents, 1947-64, p. 251.
nuclear weapons. They argued: “Since the security of this country can no longer be left to the mercy or whims of so-called friendly countries, India’s survival both as a nation and a democracy casts a duty on the Government to take an immediate decision to develop our nuclear weapon.”

The consultative committee of Parliament for the development of atomic energy on March 31, 1970 suggested to the Government to study the feasibilities of developing nuclear weapons and its possible expenditure. The Indian parliament and its scientific committee to conduct a seminar on “Nuclear options and implications for India” on May 8, 1970 and concluded that nuclear weapons were imperative in view of invariable threats to country’s integrity, sovereignty and security.

The clandestine scale of the United States during Indo-Pak war of 1971 to pressurise India by sending career enterprises and subsequently to expand military base at Diego Garcia indeed provoked the Indian policy makers to go for nuclear deterrent. These preludes, however, were abandoned by the Government of India on the ground that the nuclear technology exclusively for non-peaceful purposes would impede the growth of human civilisation and culture. However, it expressed its desire to use nuclear energy for enhancement of economic developments and civil purposes.

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225 Sampooran Singh, No. 4, p. 84.

226 B. Rahamathulla, No. 5, p. 55.
Team for first nuclear explosion

Bhabha Atomic Research Center (BARC) Team

BARC Team Lead: Raja Ramanna, Director of BARC

Team Second-in-Command: P.K. Iyengar (responsible for the actual manufacture of the device)

- **Nuclear System Design Team**
  
  Team lead: Rajagopala Chidambaram
  
  Satinder Kumar Sikka

- **Electronic Detonation System Team**
  
  Team lead: Pranab Rebatiranjan Dastidar
  
  Sekharipuram Narayana Aiyer Seshadri

- **Neutron Initiator Team**
  
  Vasudev K. Iya
  
  T.S. Murthy

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227 [http://nuclearweaponarchive.org/India/IndiaSmiling.html](http://nuclearweaponarchive.org/India/IndiaSmiling.html)
C.V. Sundaram

**Plutonium Core Fabrication Team**

- Team lead: P.R. Roy

**System Integration Team**

- Team lead: Jitendra Nath Soni
- Anil Kakodkar

**Defense Research and Development Organization (DRDO) Team**

DRDO coordinator: B.D. Nag Chaudhuri, Director of the DRDO and science advisor to the Minister of Defense

**High Explosive Implosion System Team**

- Team lead: Nagapattinam Sambasiva Venkatesan, Director of Terminal Ballistics Research Laboratory (TBRL)
- Muthuswamy Balakrishnan

**Detonator Development Team**

- Team lead: Waman Dattatreya Patwardhan at the Explosive Research and Development laboratory (ERDL)
- S.N. Joshi
India's Nuclear Weapons Program

For First Nuclear explosion

India’s nuclear weapon programme for first nuclear device had been started in late 1967 when the scientific leadership at BARC led by Homi Sethna and Raja Ramanna undertook a new effort to develop nuclear explosives, one that was larger and more intense than any previous efforts. One that would lead to the successful design of a nuclear device, a device that India would successfully test.

China had just exploded a thermonuclear device in 1967, and had become very belligerent - moving troops into disputed areas and making threats. And India's supply of separated plutonium, necessary for anything beyond purely theoretical work, was slowly accumulating. Some researchers (like Perkovich) have concluded that the new effort was begun at the initiative of the scientists involved.

http://nuclearweaponarchive.org/India/IndiaFirstBomb.html

Chengappa\textsuperscript{230} however states that Gandhi directly approved the new effort at the urging of her new secretary Parmeshwar Narain Haksar and that she specifically told Vikram Sarabhai, chairman of the IAEC, not to interfere. In any case Sarabhai did not try to stop this work when he became aware of it and appears by the spring of 1969 to have become at least a moderate supporter of the program.

India's nuclear weapons program moved in to full swing with Raja Ramanna at the helm. As Ramanna admitted in an interview on 10 October 1997, the "Peaceful Nuclear Explosive" (PNE) program - implying an intention to develop the nuclear explosives for civilian engineering work - was simply a cover for a program aimed from the beginning to develop a weapons capability, in truth there was little if any interest in Plowshare type peaceful applications. On the other hand, there was also no involvement of the military in the development program. There was no attempt to devise a military role for the nuclear explosive, or to seek the military's input for requirements. The military's public statements on nuclear weapons at this time were far from enthusiastic - essentially mirroring Sarabhai's views - so the advocates of nuclear weapons development had little incentive to seek their collaboration.

Even with the peaceful cover story, India found it necessary to keep as a low a profile on the project as possible to avoid inevitable attempts by other nations to obstruct it by denying access to nuclear technology and knowledge.

During December 1968 - January 1969 P.K. Iyengar visited the Soviet Union with three colleagues and toured the nuclear research facilities at Dubna. He was very impressed by the plutonium fueled pulsed fast reactor he saw there. This type of reactor is an unmoderated fast neutron reactor, that is allowed to go prompt supercritical to produce an intense very short pulse of neutrons. These are

\textsuperscript{230} Chengappa, Raj, Weapons of Peace, HarperCollins Publishers, 2000, India, pg. 112
all characteristics of the cores of fission bombs, the principal difference between them being that in pulsed reactors the degree of supercriticality is very slight and ordinary thermal expansion of the reactor core is sufficient to shut down the reaction, while in fission bombs the degree is very large and the core cannot expand fast enough to shut down the reaction until vast amounts of energy are released. Pulsed fast reactors provide an excellent laboratory model of fission bomb behavior, having been used for that purpose during the Manhattan Project (the famous Dragon experiments) and afterward (the Godiva, Popsy and Topsy reactors).

Recognizing this, Iyengar set about developing just such a reactor for India. The scientific leadership approved the plan in January 1969, the kick-off meeting for this reactor, called Purnima (an approximate acronym for Plutonium Reactor for Neutron Investigation in Multiplying Assemblies), took place in March 1969. Attending this meeting was Iyengar, Ramanna, Homi Sethna, and Sarabhai. Sarabhai's presence clearly indicates that with or without formal approval, the work at BARC toward weapon design now had Sarabhai's support. Chengappa indicates in fact that Sarabhai approved a one million rupee budget for Purnima (about $125,000, a figure could have covered only incidental costs - not the value of the plutonium).

Purnima was designed to use a hexagonal core of 177 stainless steel pencil shaped rods containing 18 kg of plutonium as 21.6 kg of plutonium oxide pellets (enough for three Fat Man type bombs) with a nominal average power of 1 watt. Mahadeva Srinivasan developed a sophisticated physics model for criticality calculations in 1970, and later became the reactor's chief physicist. Construction began that year when sufficient separated plutonium finally became available. Purnima went critical on 18 May 1972. With Purnima as a test bed the Indian physicists were able to refine their understanding of the physics of fast fission and fast neutrons. While not formally part of the later bomb development team
Srinivasan's expertise in fast critical systems underlay the nuclear design of the device.

1970 saw expansion of the nuclear weapons program in many ways. Due to the requirements of Purnima the program needed to develop facilities and experience in handling large amounts of plutonium (developed under the supervision of P.R. Roy), and work also began on fabricating plutonium metal alloys for the eventual construction of the bomb core. To advance the development of the essential implosion system V.S. Ramamurthy also began performing numerical implosion simulations on an antiquated Soviet Besm 6 computer.

Development of the technology for implosion got underway in April 1970 when Ramanna sent Pranab Rebatiranjan Dastidar, the electronics expert at BARC, to Waman Dattatreya Patwardhan at the Explosive Research and Development laboratory (ERDL) at Pune to begin work on the detonation system for the bomb. Patwardhan was well known to the BARC scientists, since he helped them with the explosives tests years before as part of SNEPP. In July nuclear physicist Dr. Basanti Dulal Nag Chaudhuri took over as science adviser to the Defense Minister, and as Director of the Defense Research and Development Organization (DRDO). The following month, he and Ramanna began working together to recruit the Terminal Ballistics Research Laboratory (TBRL), located in Chandigarh, to develop the explosive lenses for the implosion system.

During 1971 work on weapon design continued. Srinivasan working with K. Subba Rao developed models of the fission process on a nuclear bomb, and equations to predict its efficiency. Chidamabaram completed his work on the plutonium equation of state, and Ramamurthy developed computational models of the implosion, nuclear reaction, and disassembly process to predict the
devices behavior. Throughout this period Ramanna and his lieutenant, P.K. Iyengar, held frequent reviews of the projects progress.

In April 1971 Nag Chaudhuri appointed Nagapattinam Sambasiva Venkatesan to Director of TBRL with specific instructions to assist in developing the nuclear device.

The 1971 Indo-Pakistani War influenced India's resolve to test a nuclear device, but in a curious and indirect way. This war developed when the bi-regional state of Pakistan, split into East and West Pakistan on either side of India, held its first national election in December 1970. The dominant party of the more populous East Pakistan won a majority of the seats in parliament, but West Pakistan, accustomed to monopolizing political and military power, responded by ignoring the election result. And on 25 March 1971 West Pakistan forces arrested the winner Mujibur Rahman, and launched a campaign brutal military repression on the Bengalis of East Pakistan. This resulted in tens of millions of refugees spilling into India, some of whom took up arms against the Pakistani government. By autumn the Indian-East Pakistani border had become something close to a combat zone, with India and Pakistan trading intense firing across the border, while armed rebels operated from safe havens in India. In late November PM Gandhi authorized Indian forces to cross the border to "pursue" Pakistani forces. Pakistan responded by a massive strike against Indian airbases in western India on 3 December, and declaring war on 4 December. India had spent months preparing for this escalation, indeed had deliberately provoked it, and launched an overwhelming 3-pronged attack into East Pakistan. Unable to hold back the Indian invasion, Pakistan attempted to counter with an attack in Kashmir, gaining several miles of territory before being halted by Indian forces. The Indian army on the other hand had surrounded Dacca, the capital of East Pakistan by 15 December, and its garrison surrendered the next day. On 17 December a ceasefire was accepted by both sides, effectively ending the war.
The war had been a crushing defeat for Pakistan, which had lost more than half its population. As the crisis developed throughout 1971 China and Pakistan had grown closer to the U.S. while India had grown closer to the Soviet Union. The keystone of the Nixon administration's foreign policy had been its reapproachment with China (announced 15 July), to place the Soviet Union between the pincers of two major opposing powers. Pakistan had played a critical role in facilitating secret negotiations with China. India had at the same time strengthened its ties to the U.S.S.R. culminating in a formal treaty of friendship on 9 August. Chinese support for Pakistan during the most extreme crisis of Pakistan's existence came to nought however. China failed to provide any significant assistance for Pakistan, such as applying pressure on India's border. The net result was that Pakistan suffered both a serious military defeat, demonstrating its inferiority to India in military terms, and a permanent irreparable loss in its strategic position by the new found independence of East Pakistan. And the much feared Pakistan-China axis had turned out to be a "paper tiger".

Unsurprisingly this did bolster India's sense of security, but it did not stem the momentum toward the testing of a nuclear device as one might have supposed.

On 30 December 1971 Sarabhai died, and Homi Sethna - already head of BARC - took his place as chairman of the IAEC. Thus the only prominent voice in Indian government counciling restraint in pursuing the nuclear option was replaced by one of its most ardent advocates.

And the hostile attitude taken toward India by the U.S. during the crisis had along lasting effect on Indian attitudes. Pres. Nixon and Sec. of State Kissinger chose to view India's actions as hostilities aimed at a U.S. ally and thus as an act hostile to the United States, rather than 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. The U.S. even went so far as to dispatch an aircraft carrier battle group to the Indian Ocean in an ill-conceived, obscurely reasoned, and ineffectual attempt to pressure India. The feeling that a superpower had attempted to coerce India in affairs affecting India's vital interests became a cause celebre for advocates of the nuclear option (although they never clearly explained how a limited nuclear capability would counter U.S. pressure).

Bhabhani Sen Gupta ably described the shift in India's views toward the nuclear option in the wake of the 1971 war.\textsuperscript{231}

The Chinese bomb ceased to be the main argument for the Indian bomb, perhaps because of the Chinese inability to help Pakistan in the 1971 war and also because of the initiatives taken by India to normalize relations with China. The arguments for the bomb now were that without it India could not expect to be admitted to the corridors of global power, nor enjoy the status of the dominant regional power; that the bomb might quicken the process of normalizing relations with China; that it would proclaim India's independence of the Soviet Union and compel the United States to change its attitude of hostility or benign neglect.

By the beginning of 1972 the basic design for India's first nuclear device was complete, and other parts of the program for developing the necessary expertise to implement the design were coming along. During that year the data from operating Purnima (starting in May) began flowing in allowing confirmation and refinement of the device's nuclear design; and the work in plutonium metallurgy reached the point where the device could be successfully fabricated.

The decision to go ahead and manufacture the device and prepare for a test was made later in the year, while Indira Gandhi was still near the peak of her post-war popularity. Early in the year PM Gandhi had seemed ambivalent about the wisdom of conducting an actual test. But by this time the internal momentum of the nuclear development program, the now well established popularity of the nuclear option among India's literate urban elite, the lack of any significant restraining counsel, and Gandhi's sense of strength all seem to have combined to make the decision one of when, not if, the test would come. The decision to move forward was made by PM Gandhi on 7 September 1972, a day in which she toured BARC on the occasion of the tenth convocation of the Indian Institute of Technology at Bombay. During this tour she was shown a wooden model of the device. Upon seeing the model she gave the scientists present verbal authorization to construct it and prepare for testing, but not to test it without explicit approval from her.

One change made by Sethna soon after assuming the chairmanship was to split the Indian space program, then part of the Department of Atomic Energy, into a separate agency - observing quite reasonably that to have the DAE developing both nuclear explosives and missile technology would wave a red flag for observers concerned about proliferation, no matter what claims were made about the peaceful intent of both programs. There were two majors reasons for the first nuclear test, the first reason for Pokhran-I burst into the open within five months of Nehru’s death. On October 16, 1964 China’s first nuclear bomb went up at Lop Nor. Coincidentally, Nikita Khrushchev, who had denied China a nuclear weapon design, went down in Moscow on the same day. In New Delhi, K. Subrahmanyan, the country’s premier security analyst, then a deputy secretary in the defence ministry, sent a top-secret note to the defence secretary suggesting that a committee, headed by the legendary Homi Bhabha, should devise India’s response to the Chinese challenge. In the ministry of external affairs, K. R.
Narayanan, then director, China (later President) also advised the government to “exercise the nuclear option”. If a personal note is permissible, a week ahead of them, in The Statesman (October 9) I had pleaded for an Indian nuclear weapons programme because the “mushroom cloud was about to appear on the Himalayas.”

For his part, Bhabha made no secret of his conviction that India could produce a nuclear bomb in 18 months at no more than Rs. 30 lakhs each. Nehru’s successor, Lal Bahadur Shastri, and other political leaders were not yet prepared to go that far even though pressure within the Congress party to go nuclear was on the increase. K. C. Pant, later defence minister, and Krishan Kant, later vice-president, were principal advocates of nuclear weapons.

What Shastri did authorise, however, was a Subterranean Nuclear Exploration Project (SNEP). It did not make headway because of deaths in quick succession of both Shastri and Bhabha. Like Shastri, Indira Gandhi also wasted some time in the meaningless search for a “nuclear security umbrella” by the two superpowers.

Profound foreign policy and security developments during 1971 — Henry Kissinger’s secret visit to China and his subsequent warning that in case China became involved in the crisis in Bangladesh, India should not expect American support; the signing of the Indo-Soviet treaty Indira Gandhi wasn’t enthusiastic about until then; and above all, America’s dispatch of the Enterprise-led nuclear task force to the Bay of Bengal during the Bangladesh War — became the second and clinching reason for taking the plunge. Indira Gandhi’s numerous critics have roundly blamed her for conducting the test for purely political reasons. Nothing can be farther from the truth. At the time of Pokhran-I she was doubtless beleaguered. But she had authorised the test in September 1972 when her popularity was at its peak.
The issue was whether to go ahead and “push the button”. According to an account by Raja Ramanna, the mastermind of the venture, two of Indira Gandhi’s top advisers, P. N. Haksar and P. N. Dhar, were opposed to it, and wanted it postponed. Homi Sethna, chairman of the Atomic Energy Commission, offered no opinion. D. Nag Chaudhuri, Scientific Adviser to the Defence Minister started weighing pros and cons but was cut short by the prime minister. “Dr. Ramanna,” she said, turning to him, “please go ahead. It would be good for the country”. The next morning “the Buddha smiled”.

Her critics have a point when they say that, faced with furious international reaction, especially from the US and Canada (the latter had provided the Cirus reactor at Trombay, she “developed cold feet” and did not follow up on Pokhran-I. Consequently, there was a gap of 24 years between Pokhran-I and Pokhran-II. But that’s a different story.

**Pokhran-I**
The ‘smiling Buddha’, formally designated as Pokhran-I, was the codename of an operation of a first nuclear test explosion by India on 18 May 1974 at Pokhran.232

It was also the first confirmed nuclear test by a nation outside the five permanent members of the United Nations Security Council having been developed and executed with the help of Canadian nuclear reactors and expertise. The explosive yield of the bomb was reported to be 8 kt.233

On 7 September 1972 Prime Minister Indira Gandhi gave verbal authorization to the scientists at the Bhabha Atomic Research Centre (BARC) to manufacture the nuclear device.234

In keeping with the great secrecy involved in India’s efforts to develop and test its first nuclear explosive device, the project employed no more than 72 scientists and engineers working on it in the period from 1967 to 1974.235

Outside of those actually working on the project, only about three other people in India knew of it – Prime-minister Indira Gandhi, her trusted adviser and former principal secretary P.N. Haksar and her current principal secretary D.P. Dhar. No government ministers, including the defence minister were informed.236

The head of the developed team was Dr. Raja Ramanna. Other key personal included Dr. P.K. Iyengar, Dr. Rajgopala Chidambarm, Dr. Nagapattinam

233 Ibid.
235 Ibid.
236 Ibid.
Sambariva Venkatesan, Dr. Abdul Kalam and Dr. Waman Dattatreya Patwardhan under the supervision of Dr. Homi N. Sethna.\textsuperscript{237}

The “Smiling Buddha” device was manufactured from plutonium produced at the Cirus reactor at BARC. The basic design had been developed by 1972, when manufacture of the test device began at P.M. Gandhi’s order.\textsuperscript{238}

The yield of the PNE has also remained controversial. Although occasional press reports have given ranges all the way up to 20 kt and as low as 2 kt, the official yield was set early on at 12 kt. Outside seismic data and analysis of the creator features indicates a lower figure. Analysts usually estimate the yield of 4 kt to 6 kt using conventional seismic magnitude-to-yield conversion formulas. In recent years both Homi Sethna and P.K. Iyengar have conceded that the official yield is an exaggeration. Iyengar has variously stated that the yield was actually 8-10 kt, that the device was designed to yield 10 kt and that the yield was 8 kt exactly as predicted. Careful analysis of hard work catering effects establishes a tight bound around 8 kt for the yield however.\textsuperscript{239}

Some believe that the plutonium, the fissile material used in India’s 18 May 1974 experiment has come from CIRUS (Canada India reactor). Even if that is so, India cannot be said to have violated any of her international obligations. For one thing, although the CIRUS was originally built with Canadian assistance, Ottawa had completely washed its hands off its project and since 1963; the research reactor had been entirely managed exclusively operated by Indians. Secondly, the


\textsuperscript{238} Ibid., No. 11.

\textsuperscript{239} Ibid., No. 14.
explosion, in Mrs. Gandhi’s words, was “an extension of our work of research and keeping abreast of development in science & technology.”

This nuclear test of India was only for peaceful purposes. India’s intention was not to become a nuclear weapon state. It was clearly stated and forcefully maintained by Indira Gandhi that Pokhran test was a peaceful and fully controlled explosion conducted to develop nuclear technology for peaceful purposes for development of mines, construction of dams, harbours and search of minerals etc. While speaking to newsmen, Gandhi reiterated, the government’s strong opposition to military uses of nuclear devices. She made it clear that India’s “nuclear programme was designed for peaceful uses.”

Foreign Minister Swaran Singh issued a statement on India’s peaceful nuclear explosion to the press on May 21, 1974. He categorically stated “we are happy to note that the peaceful nuclear experiment which took place on May 18, 1974 represents a step forward on the road to peaceful uses of nuclear energy for the welfare of our people. This experiment is an important landmark in the development of nuclear technology for peaceful and economic uses. We have no intention of developing nuclear weapons.”

B.C. Mishra announced the official statement in the CD (Conference on Disarmament) on 21 May 1974: The Government of India has been and remain firmly committed to a policy of using nuclear energy for peaceful purposes and in that context of studying and working on all meaningful application of economic

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240 News Week, 3 Jan 1974.
241 N. Jayapalan, No. 8, p. 477.
242 B. Rahamathulla, No. 5, p. 55.
The development of peaceful nuclear explosion technology is an integral part of that policy.\textsuperscript{244}

Dr. H.N. Sethna, Chairman of the Atomic Energy Commission stated that it was a peaceful nuclear test and a part of the overall research and development experiment to utilise nuclear energy for peaceful purposes.\textsuperscript{245} The main intention of the nuclear explosion, Dr. H.N. Sethna emphasised, was to utilise the blasting technique for extracting gas and oil from the depleted fields by the stimulation method. The object of the experiment was in fact to study creator mechanics, rock dynamics and to understand how these could be used to construct dams and canals.\textsuperscript{246}

India’s first peaceful nuclear explosion attracted mixed reactions from the US, Canada, France, Soviet Union, Pakistan and Non-aligned countries. While the non-aligned and developing countries did not openly support India’s action they expressed their pride and happiness to such a success.\textsuperscript{247} The reaction from the US to India’s PNE was that of disgust and anger. The official in the state department could not conceive of India being the sixth member of the exclusive nuclear club. It was alleged that India was attempting to build its own independent centre of power and harbouring the ambitions of a system builder in


South Asia. They also had the apprehension that this would further reduce Washington leverage over New Delhi. 248

The official statement in Washington said: “The United States has always been against nuclear proliferation for the adverse impact it will have on world stability.” 249 The Soviet news agency, Tass commented: “Striving to keep at the level of world technology in the peaceful uses of nuclear explosions, the Indian government carried out a research programme. The results of these investigations may be used in mining and earth-moving jobs.” 250

Japan protested against India’s underground nuclear test, but hoped it would not disrupt the peace in the sub-continent. “The government can only express regret (for the test) because we have been and are still, against any nuclear test by any nation for any reason.” 251 Since the French Government had adopted the policy of building up a nuclear arsenal in defiance of world opinion, she did not hesitate to congratulate the nuclear scientists of India. The Chinese did not comment on the explosion. Britain approved the Indian contention of using nuclear energy for civil purposes. 252

The Canadian Government also sharply reacted and suspended its nuclear aid to India on May 22, 1974 on the ground that India exploded her nuclear blast in contravention to the agreement signed between the two countries. The Canadian external affairs minister, Mitchell W. Sharp said that the government would review the aid programmes “to be sure that our priorities are the same as the

248 Ibid., p. 84.
250 Indian Express (New Delhi), May 20, 1974.
251 Mainchi Daily News (Tokyo), May 20, 1974.
252 B. Rahamathulla, No. 5, p. 57.
Indians”. Sharp said: “What concerns us about this matter is that the Indians, notwithstanding their great economic difficulties should have devoted tens or hundreds of millions of dollars to the creation of a nuclear device for a nuclear explosion.”\footnote{Facts on File, Vol. 34, No. 1751, June 1, 1974, p. 432.}

Pakistan Prime-Minister Zulfiqar Ali Bhutto had held out a soleman pledge to his country-men that he would never allow Pakistan to become a victim of nuclear blackmail and declared publicly that the people of Pakistan would be ready to offer any sacrifices and even eat grass to ensure nuclear parity with India.\footnote{Morning News (Karachi), May 20, 1974.}

Although Indian government clearly declared that this explosion is only for peaceful purposes, yet the America, Japan and many other country opposed this view and said that their is no distinguishing between a nuclear test, the nuclear test of India, even allowing that it was for peaceful purposes, is in contradiction to the international efforts and world opinion bent on preventing the proliferation of nuclear weapons.

**American Reaction**

Ambassador Daniel Patrick Mayniban communicates the official United States response on the strategic repercussion of the Pokhran nuclear test by India. He says that India had made a huge mistake and that this had created further tension in South Asia. He also criticised India for undermining international non-proliferation efforts. In other official comment on the nuclear test the United
States affirms that their would be no change in its arms supply policy to India and Pakistan following the nuclear policy of India.255

Both the American officials and press were outraged by the Pokhran experiment and reacted rather angrily to the so-called nuclear proliferation. They regarded it as “moral and political sins”, “national hypocrisy” and “callous endangerment of humanity.”256

The United States Defence Secretary, Schlesinger threatened to withdraw his country’s commitment to protect India with nuclear weapons of India enters into nuclear era.257

Kissinger’s reaction to the Indian explosion was mild. But he remonstrated indirectly: “I do not believe that the Indian nuclear explosion changes the balance of power, though if India had asked our advice we would probably had not recommended it. But we do not believe it changes the balance of power, since its resources will be relatively limited, nevertheless, we are opposed to proliferation.”258

The US officials were of the view that the development of India’s nuclear capacity could disrupt Indo-US relations at a time when they are beginning to improve. They felt that questions would be raised in congress about giving New Delhi economic aid.

256 B. Rahamathulla, No. 5, p. 69.
Mrs. Gandhi’s explanation that the manufacturing of nuclear weapons was meant to test the utility of such power for building dams or oil exploration could not convince either the American officials or other western nations. Inevitably, this led to a set-back in Indo-American relations for sometimes and India had to dispense with, for the time being, the US aid.259

The United States Senate decided by a voice vote to prohibit military aid or US grant or sales of equipment to India except for military training purposes.260 The Senate Committee also suspended the US economic aid, military assistance.261 The official of the United States Atomic Energy Commission also suspended on September 7, 1974 the delivery of enriched uranium fuel to India until New Delhi pledged not to use the atomic fuel in any nuclear explosion.262

The test sharply escalated international attention to proliferation and support for India’s nuclear program from abroad disappeared. Canada cut-off virtually all nuclear assistance four days after its test, bringing two nuclear power projects – Rajasthan II reactor and the Kota heavy water plant – to a halt. Pakistani P.M. Z.A. Bhutto increased funding for its own nuclear program, which had been started in January 1972.263

The United States had promised to supply uranium fuel to the Tarapur Atomic power plant for over 30 years in accordance with the agreement signed between the two countries in 1963. The atomic power plant near Bombay was

259 Krishan Bhatia, “Annoyance over Nuclear Bliss”, The Hindustan Times (New Delhi), June 1, 1974.


261 Ibid., p. 542.


263 http://nuclearweaponarchive.org/India/Indiapause.html.
built with the American assistance in 1963. But the United States officials had, suspended the delivery of uranium fuel to India in the wake of her nuclear blast in May, 1974.

Further work on India’s nuclear weapon capability was suspended after the adverse fallout of the 1974 PNE. A conscious policy of nuclear ambiguity was adopted by New Delhi. This consisted of both affirming and denying that India had/could have nuclear weapons/capability. In effect, India became a Nuclear Threshold state.

Nevertheless, India’s belated PNE displayed a technological capability which had, until then, been only respected: it also served to elevate India, however imperceptibly, through the nuclear hierarchy of nations. Further, India’s regional predominance, which emerged after the establishment of Bangladesh, was more clearly delineated.

In 1978, under the non-congress Prime Minister, Morarji Desai, the Indian government distanced itself from the 1974 PNE. Desai emphasized distrust of and opposition to nuclear weapons within a framework of ambiguity while expressing misgivings about the safety of nuclear power. The DAE’s (Department of Atomic Energy) importance within the government was downgraded.

After the mid-1980’s, hawkish pressure mounted on New Delhi to respond to Pakistan’s reported nuclear preparation by itself going overtly nuclear. During the period of 1983-93, India rejected a total of seven proposals by Pakistan for

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264 Anwar Yar Khan, No. 21, p. 12.

265 Praful Bidwai and Achin Vanaik, South Asia on a Short Fuse, Oxford University Press, New Delhi, 2002, p. 69.
nuclear restraint and regional disarmament. India opposed all regional approaches. It said it would only discuss nuclear disarmament in ‘global’.  

Meanwhile, in 1992, India agreed to start a bilateral dialogue on the nuclear weapons issue with the US. Four rounds of talks at the topmost diplomatic level, took place, but to no avail.

In late 1995 the Narasimha Rao Government launched preparations for a test at Pokharan. The cabinet was divided, and US military satellites detected preparation for a test in the Rajasthan desert. Publicity, as well as fear of economic sanctions, deterred India from testing, but a big shift had occurred at the ground level in India’s nuclear preparations and up gradation of its nuclear weapons option.

In 1997, the BJP was the sole Indian party to advocate nuclearization. When BJP (Bhartiya Janta Party) came into power it issued orders to the DAE, DRDO (Defence Research and Development Organisation) and the armed forces to prepare for and conduct tests without consulting in coalition allies, but the RSS (Rastriya Swaym Sevak Sangh) was privy to the decision.

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**Pokharan-II**

266 Ibid., p. 70.

267 Ibid.

268 Ibid., p. 71.

269 Ibid.
After a remarkable restraint of 24 years, on Buddha Purnima Day 11 May 1998 India exploded three nuclear devices in Pokhran in the desert of Rajasthan. Two days later on 13 May 1998 India tested two more nuclear weapons. India announced that she is in possession of latest technology in developing nuclear weapons including the ability to conduct sub-critical tests by computer simulation. One of the weapons tested was composed of non-weapon grade plutonium – a significant fact that could enhance Indian nuclear arsenals.

Despite the U.S. government's self-declared "surprise" at India's multiple tests in May 1998, India's march towards an openly declared nuclear capability underscored by new tests was clear for a number of years. During the last several years the Hindu nationalist Bharatiya Janata Party (BJP) has emerged as the dominant power in domestic politics. One of its key platform issues has been its desire to make India an openly declared nuclear power. The BJP created a short-lived government for 13 days in May 1996, and it is now known that Vajpayee actually authorized nuclear tests at that time, and the devices got as far as being placed in the test shafts, before he called them off when it became evident that his government was unlikely to survive long enough to deal with the aftermath.

Two years later however, on 10 March 1998, the BJP achieved a strong electoral victory and finally succeeded in putting together a governing coalition of 13 (later 20) parties. The BJP wasted no time in making clear its intention to deploy nuclear weapons. On 18 March 1998, the day before he was sworn in as Prime Minister, PM-designate Vajpayee declared "There is no compromise on national security. We will exercise all options including nuclear options to protect security and sovereignty,". An official planning report further stated directly that

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the new BJP government intended to "re-evaluate the nuclear policy and exercise the option to induct nuclear weapons".

Considering the numerous test preparations that had been detected over the past three years, and Vajpayee's 1996 actual test authorization which was undoubtedly known to U.S. intelligence by that time, and after such announcements there would seem to be little excuse for being "surprised" by subsequent events. The underlying reason seems to have been a very ill advised cut-back in the analysis of imagery of the Pokhran site, combined with greater stealth on the part of the Indians. Given the considerable activity at the site over the previous three years, and the intelligence that the CIA undoubtedly had by then that Vajpayee had actually ordered tests during his previous short-lived government, it was not a difficult assessment to realize that Pokhran should be watched more carefully after Vajpayee took office, rather than less. It appears that the one NIMA (National Imagery and Mapping Agency) assigned to the site actually did detect suspicious activity on the morning of May 11, 6 hours before the tests (and about the time they were originally scheduled for detonation) and was waiting for further review of his findings when the tests were announced.

This is for the first time that any nation had used reactor grade plutonium to develop a nuclear weapon.\textsuperscript{271} Prime-minister Atal Bihari Vajapayee later said: "India now is a nuclear weapon state."\textsuperscript{272} On 11 May PM's Principal Secretary and National Security Advisor, Brijesh Mishra, in a statement had said, "These tests have established that India has a proven capability for a weaponised nuclear programme."\textsuperscript{273} R. Chidambaram, then Chairman, Atomic Energy Commission

\textsuperscript{271} P.M. Kamath, \textit{India’s Policy of No First Use of Nuclear Weapons}, Anamika Publishers, New Delhi.

\textsuperscript{272} \textit{Ibid.}

\textsuperscript{273} \textit{Ibid.}
stated: “The bombs tested at Pokhran were purely for defensive purposes.”

This time there was absolutely no reference to any peaceful nature of the nuclear tests.

**1998 Weapon Development Team**

**Project Leaders:**

- Dr. Avil (Abdul) Pakir Jainulabdeen Kalam
  - Scientific Adviser to the Defence Minister
  - Head of the Defence Research and Development Organization (DRDO)

- Dr. Rajagopala Chidambaram
  - Chairman of India's Atomic Energy Commission (AEC)
  - Chairman of the Department of Atomic energy (DAE)

**Development and Test Teams**

- **Bhabha Atomic Research Center (BARC) Leads**
  - Anil Kakodkar, Director of BARC

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274 P.M. Kamath, No. 47, p. 60.

275 [http://nuclearweaponarchive.org/India/IndiaShakti.html](http://nuclearweaponarchive.org/India/IndiaShakti.html)
Satinder Kumar Sikka, Lead for Thermonuclear Weapon Development

M.S. Ramakumar, Director of Nuclear Fuel and Automation Manufacturing Group; Lead for nuclear component manufacture

D.D. Sood, Director of Radiochemistry and Isotope Group; Lead for nuclear material acquisition

S.K. Gupta, Solid State Physics and Spectroscopy Group; Device design and assessment

G. Govindraj, Associate Director of Electronic and Instrumentation Group; Lead for field instrumentation

**DRDO Leads**

K. Santhanam; lead for test site preparations

Chairman of the Department of Atomic energy (DAE)

The tests were organized into two groups that were fixed separately, with all devices in a group fixed at the same time. The first group consisted of the thermonuclear device (Shakti-I), the fission device (Shakti-II) and a sub Kiloton device (Shakti-III). The remaining two sub Kiloton devices made up the second group (Shakti-IV & V). It was decided that the first group consisting of three devices would be tested on 11 of May and second group on 13 May.\textsuperscript{276}

\textsuperscript{276} http://en.wikipedia.org/wiki/Pokhran-II.
A total of five nuclear weapons were detonated at Pokhran during operation Shakti.\textsuperscript{277}

On the debate of other nuclear test, The chairman of the Atomic Energy Commission (AEC), Dr. R. Chidambaram, has claimed that the five nuclear weapons tests of Pokhran in May 1998 have provided enough data to his scientists and engineers to be able to conduct computer simulated sub-critical experiments (SCEs) at the laboratory not in the field.\textsuperscript{278} Such a view has not been shared by many of his own former compatriots, such as Dr. P.K. Iyengar who has favored conducting further nuclear tests. Addressing a group of scientists, including those who participated in Pokhran-I & II, Dr. Iyengar said that from the scientific point of view “a survivable nuclear deterrent” envisaged in the proposed nuclear doctrine could not be achieved without further testing.\textsuperscript{279}

**Shakti-I**

A two stage thermo-nuclear device with a boosted fission primary its yield was downgraded from 200 kt (theoretical) to 40 kt for test purposes.

\textsuperscript{277} *Ibid.*

\textsuperscript{278} Vatsala Shukla, “India’s Foreign Policy in The New Millennium”, Atlantic Publication, 2005, p.142.

\textsuperscript{279} *Ibid.*
**Shakti-II**

A pure fission device using the plutonium implosion design with a yield of 15 kt. The device tested was an actual nuclear warhead that can be delivered by bombers or fighters and also mounted on a missile.

**Shakti-III**

An experimental boosted fission device that used reactor grade plutonium for its primary with a yield of 0.3 kt. This test device was used to test only the primary stage, it did not contain any tritium required to boost the fission.

**Shakti-IV**

A 0.5 kt experimental device. The test only purpose was to collect data about the explosion process and to study the performance of various bomb components.

**Shakti-V**

A 0.2 kt experimental device that was U-233, an isotope of uranium not found in nature and produced in India’s fast breeder reactors that consume thorium. This device too was used to collect data.

The second phase of the Pokhran tests aimed at developing the “capability to miniaturise” nuclear warheads. The Prime Minister special Secretary Brajesh Mishra pointed out, “The tests are not directed to the US, as the US would like to secure its interests, so would the people of India. I hope the US understands our security concerns.”

Dr. A.P.J. Abdul Kalam, the scientific advisor to the Prime-minister and Dr. R. Chidambaram, the head of the Department of Atomic Energy were the chief

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coordinators for the operation. They were assisted by the 58th regiment of the army engineering corps in preparing the test site.\textsuperscript{281}

The regiment 58 engineers had learned much since the aborted 1995 test preparations (in 1995 P.M. P.V. Narasimha Rao decided to carry out nuclear tests. But the plan were halted after American satellites picked up the signs of preparations) about avoiding detection by American satellites. Much work was done at night and heavy equipment was always returned to the same parking spot at dawn so that satellite image analysts would conclude that the equipment was never moved.\textsuperscript{282}

On the diplomatic front, India adopted a policy of ambiguity about deciding to go nuclear. Statements by Indian politicians and diplomats gave an impression to the world that India was not yet decided about its nuclear states. Deliberate steps were taken to ensure that the world community would not take the BJP’s campaign promises seriously. Indian officials had categorically told the Americans that ‘these would be no surprise testing’. All this led the Americans and the world community to believe that India was not going to pursue the nuclear option in the near future. They did not take the BJP’s campaign promises seriously and hence did not expect an Indian nuclear test so soon.\textsuperscript{283}

Our nuclear policy has been marked by restraint and openness. It has not violated any international agreements either in 1974 or in 1998. Our concerns have been made known to our interlocutors in recent years. The restraint exercised for 24 years, after having demonstrated our capability in 1974, is in itself a unique example. Restraint, however, has to arise from strength. It can not

\textsuperscript{281} Ibid., No. 52.

\textsuperscript{282} Ibid.

\textsuperscript{283} Ibid.
be based upon indecision or doubt. Restraint is valid only when doubles are removed.

The reactions from abroad started immediately after the tests were advertised. In keeping with its preferred approach to foreign policy in recent decades, the US imposed economic sanctions of India as punishment. In fact a 1994 anti-proliferation law made such action virtually automatic.

Most other nations refrained from joining the US in imposing an economic embargo. Since most nations are not imposing similar sanctions, and India's exports and imports together constitute only 4% of its GDP, with US trade being only 10% of this total, the overall effect on India's economy from a direct trade embargo was small. Far more significant were the restrictions on lending imposed by the United States and its representatives on international finance bodies²⁸⁴

The day after the first tests Ayub Khan said the Asian subcontinent has been thrust into a nuclear arms race and indicated that Pakistan was ready to conduct a nuclear test of its own. "We are prepared to match India, we have the capability ... We in Pakistan will maintain a balance with India in all fields," he said in an interview. "We are in a headlong arms race on the subcontinent."²⁸⁵

Meanwhile the US worked on putting together an incentive package to Pakistan to persuade it not to test. The repeal of the Pressler amendment that cut off military aid was offered, as was delivery of $600 million dollars worth of F-16 fighter-bombers that Pakistan had ordered and paid for but never received. Discussions also began on how much aid to offer Pakistan on top of these concessions. The automatic imposition of a nearly complete embargo like that

²⁸⁴ http://nuclearweaponarchive.org/India/IndiaShakti.html
²⁸⁵ Ibid
imposed on India, but which much smaller Pakistan could hardly afford, provided the penalty side of the equation

The United Nations Security Council adopted resolution 1172 condemning the test and that of India’s. The United States issued a strong statement condemning India and promised that sanctions would follow. The United States surprised because its intelligence services had been unable to warn the President Bill Clinton of a test. On 18 June 1998, the Clinton administration announces the sanctions it will put on India. The USA government estimates the total direct impact on India at $2.5 billion.

The US imposed sanctions on India for conducting nuclear tests by invoking the mandatory Glenn Amendment of the 1994, Nuclear Proliferation Prevention Act. The law is apparently discriminatory since its empowers the most nuclearized country, the US to punish other countries for exercising similar rights. However, the Clinton administration imposed the following sanctions on India on May 13, 1998:

- Termination of assistance under the foreign Assistance Act of 1961, except for humanitarian assistance in the form of food and other agricultural commodities.

- Termination of the sales of defense articles, defense services, or design and construction service under the Arms Export control Act and termination of licenses for the export of any item on the United States munitious list

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- Termination of all foreign military financing under the Arms Export Control Act.

- Denial of any credit, credit guarantees or other financial assistance by any department, agency or instrumentality of the United States government: The United States’s opposition to extension of any loans for financial or technical assistance by any international financial institution.

- Prohibition of United States’ banks from making any loan or providing and credit to the government of India, except for the purpose of purchasing food or other agricultural commodities.

- Prohibition of the export of specific goods and technology subject to export licensing by the Commerce Department.

Mandatory Sanctions under Glenn legislation apart, however, what was not expected was the expulsion of Indian scientists from the US. and denial of visa to Indian scientists from the national Physical Laboratory to participate in a conference in the US. Some Indian scientists working in the U.S. on LCA. related and like projects were summarily sent back to home by the US authorities. The US has never before not even during the cold war ever stopped the inflow of scientists from other countries. The Committee of concerned scientists, an independent and highly reputed U.S. scientific body, wrote to President Clinton: “This rash of visa denials to scholars ..... suggests that the US may be ready to sacrifice free scientific exchange on the alter of political expediency.”

US President Bill Clinton found the nuclear tests by India an affront to the US efforts to prevent nuclear proliferation. He stated that he was “deeply disturbed by the nuclear tests”, that he did not believe that such tests contributed

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to “building a safer 21st century” and added that “this action by India not only threatens the stability of the region, it directly challenges the firm international consensus to stop the proliferation of weapons of mass destruction.”\textsuperscript{290} The US Deputy Secretary of State, Strobe Talbott, characterised the tests by India and subsequently by Pakistan as a path leading to a “dead end” and advised others not to “follow down that path.”\textsuperscript{291} Henry Sokalski, a former senior pentagon official for non-proliferation policy, commented: “India has just dug a by hole for itself by doing this test – a military, political and economic hole.”\textsuperscript{292}

American perceptions are diametrically at various with those of India. Firstly, America did not make distinction between India’s much proclaimed peaceful nuclear exposition (PNE) and Non-peaceful explosion (NPE), one nuclear capability is attained. Secondly, the United States perceived India’s fast developing nuclear sophistication as a catalyst of nuclear race in the region. Thirdly and perhaps more significantly, the nuclear proliferation in south Asia was a litmus case for America. U.S. policy makers argued that if they failed to halt the nuclear proliferation in South Asia, their efforts in other regions may falter.

The Clinton administration was also annoyed with the BJP-led NDA government as it succeeded to maintain secrecy in the conduct of tests. Then CIA Director George Tenet in his book ‘At the centre of storm: My years at the CIA’ admits that intelligence agency had no ‘clue’ of Indian tests.\textsuperscript{293}

\textsuperscript{290} Karl F. Inderfurth, “Situation in India”, Testimony before the Senate Foreign Relations Committee’s Sub-committee on near-eastern and South Asian Affairs, May 13, 1998, Washington, D.C.

\textsuperscript{291} Cable News Network CC.

\textsuperscript{292} Hindustan Times, May 13, 1998.

\textsuperscript{293} P.M. Kamath, No. 47, p. 63.
The state department spokesman, James Rubin accused Indian government of being deceitful in its dealing with the US on the question of nuclear issues. He accused India at lying and conducting a “campaign of duplicity” during twenty high level meetings between the two countries on their nuclear intentions.\textsuperscript{294}

In Indian perception, America has no moral legitimacy to criticize other when it has already conducted more than 1000 underground nuclear tests since 1945.\textsuperscript{295}

There is little doubt, however, that Americans were not united in condemning the Indian nuclear tests. There were voices which refrained from criticising India unduly and showed understanding of the regional realities of Southern Asia. Newt Gingrich, the speaker of the US House of representatives, wrote to highlight Clinton’s dangerous duplications policy of “transfer of American missile technology to China”. He further added that China conducted 45 tests, “Clinton continued to accommodate it”. On the other hand, “administration roared with outrage when a democratic Indian government chose to test its capability.”\textsuperscript{296} Senator Connie Mack said on the floor of the Senate on June 16, 1998 that a “foreign policy devoid of principle has led us to the point where we are rewarding dictators and punishing democracies.”\textsuperscript{297}

Former President Jimmy Carter and his then national security adviser Brizinski also criticized the U.S. action. Democrat Frank Pollone, Robert McNamara and Henry Kissinger advised the Clinton Administration not to deal too harshly with India. Patrick Buchanon, political opponent of Bill Clinton remarked: “Before damning New Delhi, we should put ourselves in India’s shoes.

\textsuperscript{294} Ibid.
\textsuperscript{295} B.M. Jain, Nuclear Politics in South Asia, Rawat Publications, Jaipur, 1994, p. 91.
\textsuperscript{296} Times of India (Mumbai), 20 May 1998.
\textsuperscript{297} Chintamani Mahapatra, “Indo-US Relations into the 21\textsuperscript{st} Century”, Knowledge World, New Delhi, 1998, p. 159.
If America had a nuclear armed china to its north, which was providing nuclear and missile technology to a revenge minded Mexico, would we follow the council of some distant busybody that was demanding that we forever deny ourselves a nuclear deterrent.”

A sharp question which went unanswered by the white house.

K. Subrahmanyam asked the US a very uncomfortable question: Why did the US need nuclear weapons? There is no threat to the U.S.. It is protected by two oceans. It has the most powerful armed forces in the world. Russia is its partner in the management of global peace and security and is vigorously pursuing a strategy of engagement with china.

If the nuclear weapon states had honestly worked for universal, comprehensive, non-discriminatory and time bound nuclear disarmament, India would never have gone nuclear, which has followed the policy of keeping the nuclear option open for more than two decades, in the hope that the world would move towards disarmament.

Several experts of the American strategic community were critical of the Indian nuclear tests. Bruce Blair of the Brookings institution said that the nuclear tests in South Asia wore an “eye-opener” for people who believed that the Cold War had ended and that the nuclear era was “finally winding down.”

While several analysts point out that the US anger emanated from India’s decision to conduct a surprise test rather that a notified one, the anger should be

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298 Praveen Sheth, Past Pokharn Nuclear Politics Rawat Publication, Jaipur, 1999, p. 73.


300 Ibid.
directed at the US itself and not against India. How many countries in the world,
including the United States, have informed others in advance regarding their
respective nuclear weapons programme?\textsuperscript{301}

India undoubtedly came under tremendous international political and
economic pressure exerted mainly by the US, Germany, Japan and the European
Union. They also imposed economic sanctions against India, China, Pakistan and
many other countries criticised the India’s nuclear weapon tests.

Australia and New Zealand recalled their ambassadors. Japanese Prime-
Minister pronounced Indian tests as “extremely deplorable”. Japan suspended
annual grant of $ 26 million. Germany also froze all development aid to India but
allowed projects in pipeline to be continued to be aided.\textsuperscript{302}

China joined the US in bashing India on the nuclear issue. The Chinese
foreign Minister, Tang Jiazuan, telephoned his US counterpart on May 14, 1998
and asked her to persuade New Delhi to halt testing and offered to act in tandem
to scuttle India’s entire nuclear programme.\textsuperscript{303}

But one European nation, which is also a NWS and a permanent member of
the UN Security Council, France, did not join the US in condemning India.
French spokesman, Daniel Vaillant, went one step further in stating that “French
Government does not encourage Americans to impose sanctions. This is not the
way to discourage India.”\textsuperscript{304}

\textsuperscript{301} Ibid., p. 160.
\textsuperscript{302} P.M. Kamath, No. 47, p. 65.
\textsuperscript{303} Praveen Sheth, Past Pokharn Nuclear Politics Rawat Publication, Jaipur, 1999,
p. 76.
\textsuperscript{304} Ibid.
Canada joined other western nations in condemning Indian nuclear tests. Canadian Prime-minister Chretien said that India’s tests could “set off a nuclear arms race on the Indian sub-continent and lead other countries to develop and test nuclear weapons.” Canada recalled its ambassador and joined others in cancelling all non-humanitarian aid.

There was a voice as demur in the open polity of India too. (e.g. Rajni Kothari, K.S. Bajapai, Praful Bidwai, Arundhati Roy). India had conventional superiority over Pakistan. But nuclearisation had brought two countries at par. Thus, the Nuclearsation cost India the edge it had over Pakistan. Nuclear deterrent is claimed to ensure security. In fact, India and Pakistan had a sort of nuclear deterrent for years since mid 1980s: If India or Pakistan invoked themselves in such an expensive and dangerous arms race, their fate would be no different from that of the USSR.

Praful Bidwai, an independent Indian weapons policy analyst who had urged India to abandon its pursuit of nuclear weapons, said a thermonuclear device was a sign India's program has progressed considerably since it tested a simpler fission device in 1974. "We have dropped the ambiguity completely," he said. "China and Pakistan will regard us as a full-fledged nuclear adversary and so we will have two nuclear arms races -- a small one with Pakistan and a big one with China.”

Justifying the decision to conduct the nuclear tests, Prime Minister Vajpayee said, “We live in a world where India is surrounded by nuclear weaponry. No responsible government can formulate a security policy for the country on abstract principles. He said that India could not depend for its security on

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306 http://nuclearweaponarchive.org/India/IndiaShakti.html
discriminatory nuclear regime. Replaying to sanctions imposed by the U.S., the Prime Minister said that no price was too high where nation’s security is concerned. However he said, “Our intensions were, are and will always peaceful. But we do not want to cover our action with a veil of needless ambiguity. India is now a nuclear weapon state. But India’s bomb will never be a weapon of aggression.”

Human rights activist Sumen Guha told Partha S. Banerjee that India’s nuclear tests could spark of on arms race instead of preventing a war in the subcontinent. Domestic factors in both India and Pakistan could complicates matters and precipitate yet another confrontation between that. Nuclear weapon can only aggravate their mutual tension, especially with Kashmir as the flash point.

In the ways by conducting tests India gave Pakistan a justification for what the Pakistani’s have done. Pakistani tests have wiped out whatever. Tactical advantage India had till that day and top of it.

It was also argued against the test’s India could not afford the cast of a nuclear deterrent. India is behind the poorest of the poor countries as regards as elementary education. It was ironically stated that in any case, India has a bomb now, so why bother.

307 V.N. Khanna, India’s foreign policy, Vikas Publication House, New Delhi, 1997, p. 194.
308 The Statesman 29 May, 1998
After Indian declaration of its new nuclear status in May 1998, the Prime Minister and others in the government have stated that minimal nuclear deterrence is not negotiable. The draft of Indian doctrine of minimal nuclear deterrence as prepared by the National Security Advisory Board (NSAB) was released by Brajesh Mishra, then National Security advisor to Prime-Minister Atal Bihari Vajpayee on August 17, 1999. The draft was called Minimal Nuclear Deterrence (MIND).

However, it was officially adopted by the NDA government at the CCS meeting on 4 January 2003 with minor changes. The annual report of the Ministry of External Affairs, 2002-03 however, dropped the term ‘minimum’. Later in September 2004 as P.S. Chari points out, India’s new defence minister, Pranab Mukherjee reportedly said that India needs a credible nuclear deterrence, dropping the term minimum.

As part of the same announcement, the government also declared that a two-layered structure called the Nuclear Command authority (NCA) had been set up to manage its nuclear and missile arsenals. The NCA comprises the political council, chaired by the Prime Minister, and the executive council, chaired by the national security Advisor to the Prime Minister. According to the announcement, the political council is the sole body that can authorize the use of nuclear weapons. But it also talked about “arrangements for alternate chains of command for retaliatory nuclear stripes in all eventualities”. That is, it anticipates contingencies where in someone other that the prime minister may have to and will be able to, order the use of nuclear weapons.

312 P.M. Kamath, No. 47, p. 131.
313 Ibid.
Basic Principles of India’s nuclear policy after 1998 are:\(^{315}\):

First and the foremost, India has pledged not to use nuclear weapons against states which do not possess nuclear weapons or are not aligned with other nuclear weapon states.\(^{316}\)

Second, for the doctrine to be reliable and effective, if activated, must remain under adequate command and control. MIND ensures civilian control of nuclear warheads by a democratically elected leadership through a system of command and control the ultimate decision to use the nuclear weapons in any conflict will rest with the Prime-minister.

Third, the doctrine stresses the government intention to acquire necessary protective safety systems for nuclear weapons.

Fourth, “to raise the threshold of outbreak of both conventional military conflict as well as that of threat of use of nuclear weapon India will maintain “highly effective conventional military capabilities.”

Fifth, it also assures Indian nuclear establishment that it will continue to “step up efforts in research and development to keep up with the technological development in this field.”

Indian policy of No-first Use is not without its own rational. Indian began its foreign policy with a negative approach of non-alignment. Indian independence was an outcome of Gandhian non-violence. As a reluctant nuclear weapon state a commitment to ‘No-first Use’ is logically and philosophically indicative of policy of restraint in the use of WMD (Weapons of Mass Destruction).\(^{317}\)

\(^{315}\) P.M. Kamth, No. 47, p. 134.

\(^{316}\) Observer of Business and Politics (Mumbai), 20 August 1999.

\(^{317}\) P.M. Kamath, No. 47, p. 145.
Reflections

In a Paper presented by Jasjit Singh The central foundation of the doctrine is built on four principles:

1. India’s nuclear weapons are meant to deter nuclear weapons threat/use. Unlike most other nuclear weapon states, India’s nuclear weapons are NOT meant to deter the use and threat of use of conventional weapons, chemical weapons, biological weapons or a generalised formulation of protecting national interests any time anywhere. The doctrine requires that the nuclear policy should seek to deter rather than fight a war with nuclear weapons. The orientation of the doctrine is thus completely defensive in philosophy. This also logically severely limits the potential development, deployment and employment of the nuclear arsenal. And hence the emphasis on “minimum.” It is unfortunate that in spite of repeated emphasis on minimum deterrence and even simple statements of intent to respond to a nuclear attack with punitive retaliation are interpreted as “massive retaliation” by reputed organisations well versed in the lexicon and concepts of nuclear strategy.

2. The doctrine rests on the principle of “No First Use? even against nuclear threat or use. It commits Indian nuclear policy to one of retaliation only. Para 2.4 of the draft paper expresses it in the following terms:

The fundamental purpose of Indian nuclear weapons is to deter the use and threat of use of nuclear weapons by any State or entity against India and its forces. India will not be the first to initiate a nuclear strike, but will respond with punitive retaliation should deterrence fail?

http://www.pugwash.org/reports/nw/nw7.htm
The only country to adopt a similar commitment is China although uncertainties have grown in recent years whether China’s commitment is a political statement or a doctrinal precept. A retaliation only doctrine accepts the fact that India will not initiate a nuclear strike under any circumstance. On the other hand, in order to reduce the risk of an attack on India it promises in unequivocal terms that sure and certain retaliation will follow. Assuming that rationality operates, as indeed it is expected to in any deterrence equation, this prospect which would lead to unacceptable punishment to the aggressor is expected to function as a deterrent. This no doubt seeks to ensure security of India based on the promise of assured retaliation.

3. As a defensive doctrine of no-first-use and limiting the use of nuclear weapons to retaliation only, India’s draft doctrine is in total harmony with the UN Charter. Article 51 of the Charter under Chapter VII clearly endorses “the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United States.

4. The doctrine emphasizes that global, verifiable and non-discriminatory nuclear disarmament is a national security objective. This is to be expected from a country that has pursued the goal of complete abolition of nuclear weapons for decades. In fact the doctrine clearly states that the absence of nuclear disarmament has created the need for India to acquire its nuclear deterrent. It also makes it clear that India’s nuclearisation has emerged out of the failure of the international community to institute disarmament half a century after nuclear weapons came into use and more than three decades after the five nuclear weapons states were bound by treaty obligations to do so.

The doctrine of ‘No first Use’ came under severe criticism from various quarters. Some with political overtones like Communist Part of India (Marxist) and the congress party, others were critical on the grounds of its operational problems. Thus Kapil Sibbal, then spokesman of the congress party argued “...to keep deterrence at a
theoretical minimum is to leave ourselves vulnerable to a first stripe leaving us nothing to retaliate with." The Congress Party-led UPA government thus appears to be all set to discard word ‘minimum’.

Some critics have argued that undeclared status as nuclear weapon state had created a balance of power since 1971. But once India-Pakistan declared their respective nuclear status in 1998, first war since 1971 was fought in 1999. It not only confirms India losing its natural advantage arising from conventional military preponderance, but also shows that it emboldened Pakistan with confidence of having gained advantage of nuclear weapons as an equaliser.

Another criticism is that it will lead to an arms race in South Asia.

The critics point out that commitment to ‘No First Use’ is only a sloganeering as there is nothing concrete about it and there is no guarantee that India will not change its policy in a crisis.

Last but not the least in importance is, the ‘No First Use’ has a moral and diplomatic edge as a doctrine of peace and security over the other alternative of first use of or ambiguity over the use of nuclear weapons.

BJP lead NDA government’s policy of ‘no first use’ was also accepted and continue by congress lead UPA government. In an interview to the CNN in Washington, DC on 20 July 2005 Prime Minister Dr. Manmohan Singh stated that his government is very much committed to no first use of nuclear weapons.  

India is a nuclear weapon state. This is a reality that can not be denied. It is not a conferment that we seek, nor is it a status for others to grant. It is an endowment to the nation by our scientists and engineers. It is India’s due, the

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319 The Times of India (Mumbai), January 1, 1999.
320 Strategic Digest, Vol. 35, No. 9, 2005, p. 1151.
right of one-sixth of humankind. Our strengthened capability adds to our sense of responsibility; the responsibly and obligation of power. India, mindful of its international obligations, shall not use these weapons to commit aggression or to mount threats against any country; these are weapons of self defense and to ensure that in turn; India is also not subjected to nuclear threats or coercion. India remains committed to the basic tenet of our foreign polity a conviction that global elimination of nuclear weapons will enhance its security as well as that of the rest of the world. It will continue to urge countries, particularly other nuclear weapon states to adopt measures that would contribute mean in fully to such an objective.

These tests are necessary for national security. Because in the world of nuclear weapons, our national security was in always danger. These tests warmly welcomed by Indian people.

In January 2003, the Indian government come out with a brief official nuclear doctrine. Though it provides few concrete details, it is significant that the Indian government has, for the first time, claimed the right to a nuclear relation to an attack with chemical and biological weapons. In this it appears to be following the lead to the U.S., which has announced a similar policy a few months earlier. Through this announcement, the Indian government has significantly weekend its earlier ‘No first use’ pledge of not using nuclear weapons against non-nuclear states.

The negative aspects of the Pokhran test were plainly evident: the retrogression caused to India’s atomic energy programme; world wide suspicious raised about India’s ultimate military intentions; incentives provided for Pakistan’s intentions. Incentives provided for Pakistan’s military-oriented nuclear programme; simultaneously, incentives provided for US efforts to bring India’s nuclear programme under international safeguards and US-Pak efforts to inveigle India into a South Asia nuclear free zone.
Now India (and Pakistan) have forced their way into the nuclear club. The tests have increased tension, made nuclear war very likely in the subcontinent and have unleashed an arms race. The tests have brought one new element to the India-Pakistan equation. Pakistan can now feel more secure vis-à-vis the larger India. That infects a contribution to stability.\textsuperscript{321}

India has broken the monopoly of the nuclear five. After a gap of twenty four years, India has demonstrated its scientific and technological prowess to rest a variety of warheads ranging from thermo-nuclear to sub-kiloton devices.

The tests conducted on 11\textsuperscript{th} and 13\textsuperscript{th} May 1998 proved beyond any shadow of doubt, India’s superiority over Pakistan in nuclear capabilities. In contrast, Pakistan’s nuclear and missile capabilities are limited by what China can provide for Pakistan.

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\textsuperscript{321} K. Subrahmanyan, Nuclear India Indian Defense Review, April-June, 1998.