CHAPTER VII
CONCLUSION

India's nuclear policy and its response to perceived threats from nuclear weapons as well as its nuclear capabilities entail two phases. The first phase can be delineated between 1947 and April 1998 and the second phase commences from May 1998 onwards, when India declared itself as a state with nuclear weapons. During the first phase, India ardently supported complete nuclear disarmament, opposed the Non-Proliferation Treaty (NPT) as being discriminatory, arbitrary and partisan. While advocating nuclear disarmament, India also supported the right of developing countries to harness nuclear energy for peaceful purposes. In 1974, India conducted its peaceful nuclear explosion (PNE), which was severely criticized by the five nuclear powers, among others.

Development of strategic nuclear weapons by China, Pakistan’s ambiguous nuclear programme, rapid proliferation of missiles, unfavourable developments leading to the negotiations for Comprehensive Test Ban Treaty (CTBT) and the deadline set for India to sign the CTBT were such events that forced India to declare itself a nuclear weapons state in the aftermath of May 1998 nuclear tests. Thus India entered the second phase of its nuclear policy as a State with nuclear weapons.

Total abolition of nuclear weapons at an early date continues to be the central goal of India's nuclear policy. India favours delegitimization of nuclear weapons and change in the belief systems and motivations for nuclear weapons.
While advocating phased, if not time-bound, negotiations and conclusion of a universal treaty for the abolition of nuclear weapons, India also espouses for narrowing the window of nuclear weapons utility.

Nuclear India's policy aims at cooperative approach to arms control within the framework of national security interests and as transparent interim measures pending abolition of nuclear weapons. India's nuclear policy also envisages strategic stability to ensure that risk of accidental or unauthorized use of nuclear weapons is minimized; confidence building measures are to be strengthened; improvement of political relations with China and Pakistan gets a specific priority to reduce the potential conflict and high level of conventional capability is maintained to raise the nuclear threshold.

Scholars have advanced many types of incentives that spur nuclear proliferation. The objective of appraising the adequacy or inadequacy of the existing literature to explain the proliferation propensities of protracted conflict states is twofold: to show the underdeveloped state of the proliferation literature in terms of theory-building, and to demonstrate that security motivation-- though important--needs further clarification and specification for a more comprehensive understanding of proliferation in the protracted conflict states. Nuclear weapons promote security through deterrence but they also entail the risk of exacerbating nuclear arms race.

India's nuclear doctrine is predicated on the notion of minimum credible nuclear deterrence, strategy of no-first-use, survivable force and violent
retaliation to a nuclear attack and posture of recessed deterrence in tune with the doctrine. It is worth mentioning here that command and control of India’s nuclear weapons lies firmly with the political executive head.

Similarly, a mutually agreed formula between India-proposed no-first use of nuclear weapons and Pakistan proposed non-aggression pact and in declaring South Asia as a nuclear weapon free zone can also be pursued by interested parties. Another measure that can be tried is a concerted effort on the part of the permanent members of the UN Security Council to act as honest facilitators to help in ushering a common, strategic dialogue and language on arms control in South Asia and foster open communications among the parties concerned. But then, the concept of nuclear deterrence for two South Asian rival countries with deep-rooted historical animosities and regional ambitions may be an uphill task unlike the case of the United States and former Soviet Union during the Cold War years that stayed broadly within the perimeter of deterrence. Even in the case of US and the Soviet Union, they almost came to the brink of nuclear war on more than one occasion including the now famous Cuban Missile Crisis of 1962.

Broadly speaking, neither India nor Pakistan has developed an acceptable command and control system of their newfound nuclear arsenals. Nor have any concrete contingency plans been envisaged for the day after as other declared nuclear powers have done. Even a preliminary study of basic nuclear risk reduction measures (NRRM) in the four key areas of potential risks such as miscalculation, unauthorized use, accidents and panic behaviour as proposed by
members of an influential peace group, MIND (Movement in India for Nuclear Disarmament), are yet to be initiated by either India or Pakistan. It may be that the real choice before the international community is not to treat India and Pakistan’s nuclear tests as an isolated regional problem but rather to commence serious negotiations to draft a treaty for limiting nuclear warheads at its absolute minimum level within a set time.

It will be counterproductive if the international community resorts to unilateralism such as the plans made by the then US president George W. Bush with the National Missile Defence programme and selective morality on the part of the Big Five nuclear weapon states in maintaining the existing status quo of nuclear powers prior to India and Pakistan’s explosion and not work towards a genuine nuclear arms control agreement. Although U.S. and Russian leaders have shown willingness to drastically cut their nuclear arsenals to a historic 2,000 warhead, START III is yet to pick up the right momentum.

In this context, India’s view for a genuine nuclear reduction sounds credible and plausible. Indian has called all nuclear weapon states to join with it in opening early negotiations for a nuclear weapons convention so that these weapons can be dealt with in a global, non-discriminatory framework as other weapons of mass destruction have been dealt with in the past. While it appears self serving, it is certainly consistent with India’s past proposals and represents a continuation of traditional Indian policy which has always held out the threat of overt nuclearization so long as the global nuclear order remained unreformed.
Under the prevailing circumstances, India’s Nuclear Doctrine needs to be redefined, keeping in view the environment in its immediate neighbourhood and its strategic-security related requirements.

China’s nuclear assets are comparatively much larger than India and recent years have witnessed phenomenal growth in China’s strategic nuclear force in terms of quality and quantity. China’s security considerations are different from that of India; hence Chinese nuclear build-up should not be construed solely vis-à-vis India alone, because China’s threat perceptions are governed by the nuclear stockpiles of United States, Russia and other nuclear powers and their nuclear postures as well. However, China remains a major determinant of India’s security concerns and some of China’s strategic nuclear weapons are capable of destroying India. It is in the wake of this scenario that India has to develop its nuclear deterrence to face Chinese threat and ensure its security.

Undoubtedly, recent years have seen remarkable growth of friendly relations between New Delhi and Beijing along with increased interaction in economic, political, cultural, science and technology fields and a Joint Working Group is overseeing the ways and means of resolving the contentious border issue. However, this does not mean that threat to India from China is either minimized or reduced, especially in the wake of China’s continuous support to Pakistan’s missile and nuclear programmes, apart from making inroads into Myanmar, in India’s neighbourhood. China’s long-range tactical nuclear weapons vis-à-vis United States are faced with some technical constraints while the Indian territory
is conveniently under the target range of Chinese nuclear-tipped missiles. India's progress in the development of long-range missiles, particularly Agni-III etc. are still at the development stage. Thus, India has to build up a credible deterrence vis-à-vis China.

Even a decade after conducting nuclear tests, India and Pakistan are slowly but steadily moving toward building operational nuclear forces. U.S. diplomatic attempts at capping nuclear weapons development in South Asia by persuading both countries to accept qualitative and quantitative caps on their weapons development process and fissile material production have failed. India and Pakistan also continue to resist international entreaties to join the nuclear nonproliferation regime.

However, in the post-May 1998 period, both India and Pakistan have initiated a series of intended steps at the technological, organizational, and doctrinal levels to transform their symbolic capabilities into operational and hence usable forces. These steps involve the development of rugged and reliable fission devices that can be mated onto both aircraft and short- and intermediate-range ballistic missiles. Armed forces in both countries are being trained in the safe handling, transport, storage, and use of nuclear weapons, including military exercises simulating nuclear weapons use on the battlefield. A parallel process has involved the institution of nuclear command and control arrangements with clearly delineated roles for civilian and military authorities. And at the doctrinal level, both Indian and Pakistani militaries have become actively involved in
drawing up operational plans concerning the deployment and use of nuclear weapons in war. In addition the two military crises (1999 and 2001-2002) that followed in the wake of the 1998 nuclear tests have had a forcing effect on the operationalization efforts in New Delhi and Islamabad.

But despite surface parallels, there exist major differences between India and Pakistan’s weaponization experiences. Pakistan’s nuclear weapons programme is exclusively India-specific. However, India’s deterrent is aimed at both Pakistan and China. As a result, the scale and scope of India’s nuclear weapons effort is much larger, as manifest not only in its efforts to develop more advanced weapon designs, such as boosted fission and thermonuclear warheads, but also in programmes to develop long-range ballistic and cruise missiles and ultimately a sea-based nuclear arsenal. However, there are no indications in open-source literature of any Pakistani programmes to rival or match India’s efforts in any of the above areas.

Despite the differences in the scale and scope of their nuclear efforts, Pakistan is believed by many observers to be further along than India in the evolution of a nuclear command and control system and operational planning involving the use of nuclear weapons. This development is the result of the differences in civil-military and inter-military relations in the two countries. Historically, the Army has dominated the political process in Pakistan. It has also controlled the nuclear weapons effort since the early 1980s. Among the three armed services, the Pakistani Army enjoys a position of unrivaled supremacy. A
lack of interference by rival civilian authorities or the Air Force and Navy has allowed the Army to proceed relatively unimpeded with addressing command and operational issues associated with nuclear weapons, in accordance with its own organizational preferences. In India however, civilian domination of the professional military and control over the nuclear weapons effort have made it difficult for the military to stamp its organizational preferences on the direction of country’s nuclear weapons-related planning.

Although successive Indian governments in recent years have proceeded with the creation of a national nuclear command authority with a clearly delineated role for the military and sought to streamline military decision-making by instituting a joint forces command, command and control of nuclear weapons remains divided between civilian political, defense-scientific, and military authorities. Equally significant, inter-service rivalry over custody issues, especially between the Army and Air Force, has also slowed down India’s transition toward operational status.

India and Pakistan have a three-decade old history of confidence-building measures. These include hotlines between army commanders and prime ministers, a joint India-Pakistan Military Commission (created in 1990), and agreements to provide prior notification of troop movements and ballistic missile tests. In 1991, both sides agreed not to attack nuclear facilities. Implementation, however, has been sporadic.
In February 1999, India and Pakistan concluded the Lahore Agreement. That agreement envisioned a plan for future work, to include measures to reduce the risk of unauthorized or accidental use of nuclear weapons, reviews of confidence-building measures and communications links, prior notification of ballistic missile tests, continuation of unilateral moratoria on nuclear testing, and dialogue on nuclear and security issues. The Lahore process was undermined by the summer 2001 military incursion by Pakistan in the vicinity of Kargil, but the two sides began a dialogue in 2004 and in September that year both India and Pakistan announced some confidence-building measures.

Viewed in a broad perspective, foreign secretaries of both countries reported progress in their discussions on missile notifications in December 2004. Undoubtedly, during the regime of President Musharraf, the Indo-Pak relations continued to make headway towards normalization of relations. Despite the advent of civilian administration in Pakistan August 2008, the process of normalization has not gathered momentum because of Pakistan’s intransigence in complying with India’s demand for handing over the militants involved in perpetrating terrorist acts in India. However, Pakistan’s missile and nuclear programme is bound to be a matter of concern for India and it is through peaceful means that outstanding issues between the two countries, especially the issue of Jammu and Kashmir, are resolved that the danger of nuclear threat can be minimized.
India's missile coalition has capitalized on the success of the Prithvi and Agni programmes to seek political support for new missile programmes. Proposed programmes include both defensive and offensive missile systems. The list of defensive systems includes ATBMAs designed to provide ‘point defence’ for India's nuclear command and control centres and high-density population targets. Offensive weapon systems include an intermediate-range version of the Agni ballistic missile, the BrahMos cruise missile, and the Avatar programme that would theoretically be capable of launching nuclear strikes from outer space.

India's expectation that U.S. ballistic missile defence is inevitable and the DRDO's case for a limited ATBM capability have produced a historic shift in the India's position on ballistic missile defense; from opposition, India has resorted to outright support for the U.S. programme. The flip side, of course, is that India's missile coalition expects technological assistance from the United States and its allies to build a limited ATBM system capable of intercepting short-range ballistic missiles. In the meanwhile, however, the DRDO hopes to integrate Russian S-300 SAMs or the Israeli Arrow-2 with the indigenous Rajendra phased-array radar system. In this context, India has also acquired the Green Pine radar system from Israel for purposes of detecting long-range ballistic missile launches.

In its push for an ATBM capability, the DRDO has received support from the Indian Air Force. The Air Force, which has lost the battle against the Army for overall control of India's missile-based nuclear delivery systems, now, appears to be backing the ATBM project to safeguard its redefined organizational goals as
an air and space force. The Air Force is also actively pushing the BrahMos cruise missile project. The DRDO hopes that the BrahMos cruise missile could ultimately be configured for launch from air-, land-, and sea-based platforms. Thus in the future, the Air Force could be expected to make the case for an air-leg of the proposed "minimal deterrent," using long-range strike aircraft with a standoff cruise missile capability. In this regard, the Air Force is also likely to support the DRDO's futuristic Avatar reusable space launch vehicle. The Avatar could theoretically be used as a nuclear delivery system with a global strike capability; it could also serve as an asset to strike enemy space-based surveillance and communication targets, or for ferrying civilian and military payloads into space. Should this project become successful, there could be a consolidation of interests between the DRDO, the civilian Indian Space and Research Organization (ISRO), and the Indian Air Force with active support from India's political leadership.

The DRDO is also actively consolidating its alliance with the Indian Navy by developing sea-launched versions of the Prithvi ballistic missile and by planning to configure the BrahMos cruise missile for launch from submarines and ships. The current version of the BrahMos has an anti-ship capability, but future systems will incorporate a land attack capability. The current sea-based version of the Prithvi (Dhanush) is limited by its short-range (350km) and liquid-fueled engine. The missile's short range and the dangers associated with liquid fuel on board submarines and surface ships make it unlikely that the Navy will accept the Dhanush for active deployment. However, the development of the Dhanush
will most likely enable the Navy to stake a claim in India's emerging nuclear deterrent. India is also reportedly developing an SLBM capability. India's draft nuclear doctrine, which should be read as a statement of ambitions and future intent, does envisage a sea-based nuclear capability for reasons of operational flexibility and survivability. In the wake of New Delhi’s success in acquiring indigenous nuclear submarine, the possibility of emergence of an Indian sea-based nuclear capability very shortly has increased.

Finally, the centrality of strategic missiles in the DRDO's organizational priority of interests, potential nuclear threats from Pakistan and China, and the growth and expansion of India's missile coalition have ended the technological fragmentation within India's high-tech nuclear, missile, and civilian space sectors. In this regard, the IGMDP and the Agni programme marked the beginning of cooperation between the ISRO and the DRDO. By the late 1980s, the DRDO and the DAE launched joint programmes to weaponize nuclear devices and modify a limited number of air breathing platforms and ballistic missiles for the delivery of nuclear munitions. Cooperation between the three sectors of India's 'strategic enclave' continued in the 1990s.

Further changes in the missile development process can be expected, especially with respect to collaboration with other countries. In February 2008, India announced that the IGMDP will end by the close of the year. The emphasis will now be on serial production of the missiles developed under this program.
Crucially, some specific projects might involve foreign collaboration, although strategic projects will be developed ‘in house.

India's guided missile programme has now assumed a self-sustaining character and is now guided by a clear strategic vision and buttressed by a diverse coalition with strong organizational stakes in politically and strategically determined technological outcomes. In retrospect, the guided missile program has not only become central to India's proposed ‘minimal deterrent,’ but more significantly, it has emerged as the symbol of an independent, self-reliant, and strategically autonomous India capable enough to safeguard its national security and territorial integrity, from both Pakistan and China.

**TESTING OF HYPOTHESES**

The first assumption that the ‘nuclear weapons will enhance India's security’ has been authenticated by the trends emerging from this research study. Availability of nuclear weapons with India is prone to serve as a deterrent both for Pakistan and China to launch a nuclear attack on India for fear of retaliation and ensuing destruction.

The second assumption that ‘India's nuclear doctrine is vague and ambiguous’ is also validated by the findings of this research study. India had declared its nuclear doctrine in haste in order to avoid misconceptions about India’s nuclear policy. However, the strategic complexion in the vicinity of India has been transformed in view of rapid strides made by Pakistan and China in
their nuclear and missile arsenal. These developments warrant urgency for redefining India’s nuclear doctrine.

The third assumption that ‘India as a State with nuclear weapons can espouse the cause of total abolition of nuclear weapons and nuclear disarmament more convincingly’, though does not form the part of analysis of present research work, but this presumption seems true. Ample evidence can be had from India’s statements in international fora with regard to India’s strong advocacy for nuclear disarmament and its unconditional support for international measures designed to reduce nuclear weapons. Another assumption that ‘nuclear weapons do not diminish the importance of conventional weapons’ is found true by the trends emerging from this research study. The fact that nuclear weapons have not been used since the tragic events of Hiroshima and Nagasaki in 1945 despite the fact that many countries now possess these weapons also supports this logic because there has been more craze for sophisticated conventional weapons even among the nuclear powers.

Another assumption that ‘qualitative improvement in India’s nuclear weapons along with numerical superiority over its neighbours will serve as effective deterrent’ is a normative assumption which cannot be proved on the basis of present research study. However, the available evidence shows that both qualitative and quantitative superiority of nuclear weapons available with the United States and Russia serve as a strong deterrent for other nuclear powers to even think of attacking either country.
The other assumption that ‘nuclear weapons alone are no sure and sole guarantee for security’ is validated by the emerging trends of present research work. Despite the possession of nuclear weapons, Pakistan resorted to ‘low-intensity conflict’ in the Kargil sector against India in 1999. For fear of retaliation, one nuclear power is afraid of using nuclear weapons against its rival because such an eventuality will cause destruction of immense magnitude on both sides.

The final assumption that ‘India’s emergence as a State with nuclear weapons has enhanced its prestige and stature in the international comity of nations’ is partially corroborated by the emergent trends discernible from this study. It has helped India to try to have access to Western nuclear technology for harnessing the same for promoting economic development. Signing of Indo-US civil nuclear agreement in July 2005 and its implementation in the near future will benefit India. However, countries like Japan and Germany do not have nuclear weapons but they still enjoy enviable position in the international comity on nations. Similarly, it is essential for India to build up a strong economic base.

**SUGGESTIONS**

Following suggestions, based on the trends emerging from the present research study, are offered for augmenting India’s conventional as well as nuclear security:

- The present notion of ‘credible minimum nuclear deterrence’ is vague.

  Pakistan and China are engaged in rapid production and qualitative-cum-
quantitative improvement in their nuclear arsenals. So India’s response should be matching;

- India’s present ‘Nuclear Doctrine’ is vague and ambiguous. It should be redefined in view of geopolitical and strategic developments taking place in India’s immediate neighbourhood;

- Well-concerted efforts should be made to develop indigenous nuclear and missile technologies in order to minimize dependence on external sources and ‘arms-twisting tactics’;

- Equal priority and emphasis should be accorded on conventional weapons to ensure adequate security;

- Priority should be accorded to manufacture nuclear submarines indigenously and induct them into the Indian Navy;

- Acquisition of second aircraft carrier should not brook further delay because the present aircraft carrier is nearing its decommissioning period. Rather India should procure two more aircraft carriers and equip them with latest conventional as well as nuclear weapons.