Chapter-1
INTRODUCTION

Every country accords the top most priority to its national security. The concept of security, prior to the advent of nuclear weapons, was generally construed in terms of a nation's capabilities of meeting the conventional military threats. Nuclear weapons in the post-Hiroshima phase added a new dimension to the hitherto conventional threats. Rapid proliferation of nuclear weapons, missiles and other weapons of mass destruction (WMDs) portend threat not only to the national security but entail the potential of jeopardizing international security as well. In the post-Cold War period, new sources of threat to national as well international security have emerged and these sources are non-conventional as well as mostly non-military in nature. These, inter alia, include terrorism, drug-trafficking, proliferation of small lethal arms, depletion of natural resources, ethnic conflicts, international migration, insecurity of small states, etc. Thus, threats to national security are from multiple sources- conventional, nuclear as well as non-conventional.

Until recently, the notion of security tended to denote different things for developed and developing countries. The role and capacity of an individual country used to be the differentiating factor. The instrumentally of the state itself was looked upon as a major source of security as well as a threat. The military capabilities of the state ensured protection against external
threats. Concomitantly, military might of a country was also construed as a source of insecurity for other countries. Social welfare programmes were seen in terms of protecting the people against ill-health, unemployment and extreme hardships. Law enforcement authorities provided protection against internal dangers.

Unlike the developed countries, the case with developing and underdeveloped countries was entirely different. These countries either lacked proper means or were not capable of providing comprehensive protection. In certain cases, the state was often seen as a source of insecurity. Rampant corruption, oppression and other forms of weak, and mal-administration were often seen as source of insecurity.¹

In the post-Cold War period, this dichotomous approach to the notion of security has undergone substantial change. The notion of security is no longer seen exclusively in terms of containing the enemy. The emphasis has now shifted towards an understanding that there are common fears and issues that cannot be resolved through military means alone. Broadly speaking, security issues are becoming both localized and globalized. Local security fears veer round issues like poverty drug-trafficking, health matters, terrorism etc. On the other hand terrorism and environment issues
are projected beyond local and national levels to global prominence.

Thus, with regard to the notion of security there has come to pervade convergence between developed and developing countries. Of late, there has emerged a debate increasingly questioning the role of the state within developed nations themselves. According to Greg Mills: “The reasons behind this reside in the retreat of the notion of the welfare state and the contemplated privatization of functions historically seen as part of the core of the nation-state, and the depreciation in the value of the external security role of the state that accompanied the end of the Cold War.”

Interestingly, it adds to curiosity to ascertain as to whether or not national security policies pursued by a country aim at addressing new global challenges especially in the developing world, where domestic rather than external threats portend greater challenges. The emerging new world order in the post-Cold War period continues to be characterized by an increasing divergence between the most advanced and most underdeveloped economies. New technologies and growing political instabilities in some of the developing countries, particularly in Africa, have further spawned this chasm. The new forces generated by globalization reflect the need for new rules for the
game of governance in which non-governmental actors have closer interface with the state.\textsuperscript{4}

Most of the developing countries, which had been subjected to colonialism, had, in the post-Second World War period, seen in decolonization and self-determination as significant steps towards democracy and autonomy. According to Peter Marshall, the process of accession to statehood was not accompanied by the capacity to ensure self-defence and economic survival without external help.\textsuperscript{5} And in the post-Cold War period, percolation of this phenomenon has resulted in the greater international dependency and the rise of non-state actors which run almost parallel functions due to a reduction in and, in certain areas, collapse of state's functions.

The contemporary notion of security takes into consideration the full spectrum of inter and intra-state characteristics of political, social, military, economic and technological factors having bearing on the stability and safety of the society. These factors \textit{inter alia} include conflict, migration, disease, drug-trafficking, terrorism and even unemployment. Viewed in broader perspective, globalization has not yet obliterated the institution of nation-state. Many of the vexing issues are still sought to be resolved through the traditional methods of reconciliation through state or inter-state organizations. Undoubtedly, resolution of
individual security demands is still sought through state-based organizations. But rapidly changing circumstances require an approach balanced between demands of peace and security for the individual, the community, the region, and the globe. As the former Secretary General of the United Nations, Boutros Boutros Ghali stated in June 1992: “It is the task of leaders of states today to understand this and to find a balance between the needs of good internal governance and the requirements of an ever more interdependent world.”

India is not an exception to this scenario and being a developing country and because of its geo-strategic location, it has security perceptions of its own that govern India’s foreign and defense policies. While pursuing its independent foreign policy based on the principles of non-alignment, India has been a staunch opponent of nuclear weapons and advocated the cause of total disarmament, including nuclear disarmament. While supporting disarmament measures initiated by the United Nations, India also espoused the cause of the developing countries to harness the benefits of nuclear energy for peaceful purposes so that developing countries could carry on with the task of economic development. With Non-Proliferation Treaty (NPT) coming into force at the outset of the 1970s, the developing countries were denied the right to nuclear energy even for peaceful purposes. India did not accede to the NPT because of its discriminatory and partisan nature. While
espousing the cause of complete disarmament, India kept its nuclear option open and conducted a peaceful nuclear explosion (PNE) in May 1974.

Host of developments like India’s growing apprehensions about the induction of sophisticated conventional arms in its neighbourhood, mushrooming of Sino-Pakistan nexus, rapid proliferation of nuclear know-how in the subcontinent, pressures of great powers on India’s peaceful nuclear programme, induction of missile technology in the neighbourhood, dismantling of the erstwhile Soviet Union as a loss to India for being the reliable source of defence supplies, and the time-bound stipulation for India to accede to the discriminatory Comprehensive Test Ban Treaty (CTBT) etc., were the factors that forced India to redefine its nuclear policy. Accordingly, the May 1998 nuclear tests conducted by India envisaged a paradigm shift in India’s nuclear policy. From being a non-nuclear weapon state India became a state with nuclear weapons.

Although possession of nuclear weapons is seen as the currency of power since Hiroshima (1945), yet India does not require nuclear weapons either for mere prestige or status because India’s prestige is governed by its ability to solve its problems successfully. The issue of national security in relation to nuclear threat is one of those myriad problems. For a country pursuing an independent foreign policy and security policy, potential challenges posed by existential and specific nuclear weapons threat can be adequately addressed only (i) thorough global abolition of nuclear weapons or (ii) by reliance on nuclear deterrence to ward off such challenges. The latter could be
autonomous or provided by military alliance, as is the case with a large number of countries.

The Indian leadership had decided long ago even prior to country's independence that India would pursue an independent and non-aligned foreign and defence policy.\textsuperscript{7} contrary to conventional wisdom, the Cold War was the neither the sole nor the most critical reference point of non-alignment, which emanated and grew in a wider complex of national and international factors in the Post-Second World War period. The key factors that pushed India toward overt nuclear weapons deterrence can be summed up under the following broad subheads:

(a) China Factor

Historically, India has had to formulate its nuclear policy in the context of the nuclear weapon states, with China as a central factor. India's policy from the beginning has had to cater for a fundamental competition with China, which undoubtedly poses by far the biggest strategic challenge. This imperative requires that India continue to build close and cooperative relations with China. But, at the same time, India also requires to take prudent precautions for a possible reversal at a future date so that the situation of 1962 does not repeat itself.\textsuperscript{8} Some of the elements that need to be borne in mind are:

- The historical strategic and ideological motivations that resulted in China’s aggression in 1962 may not have fully dissolved.
- Persisting territorial dispute where China occupies 48,000 sq. Km. of Indian territory and claims another 94,000 sq. km.
While China signed in 1993 an agreement with India for both countries not to use their military capabilities against each other, it is not entirely clear what will be the status of this commitment in times of tension and crisis, particularly in territories, which China claims and depicts as Chinese territories. This is made more complicated by China's declared policy in a different context where it is completely unwilling to renounce the use of force for 'reunification' and treats 'reunification' as the 'sacred duty of the PLA.'

The continuing inability of Beijing to resolve the internal tensions related to Tibet and Xinjiang along the Indian border creates its own dynamics of potential problems. It needs to be recalled that worsening of the situation in Tibet in the late 1950s was a major factor leading to conflict between India and China. There are still 150,000 Tibetan refugees in India, who have been showing signs of restlessness. Future instability, because of the Tibet situation can not be ruled out, and unlike 1962, China is a nuclear weapon state with a modernizing arsenal.

Conventional and nuclear force modernization in China has been progressing at a fast pace, especially with access to Russian military technology since 1992.

Continuing strategic uncertainty of how China (a veto-wielding member of the UN Security Council) might use its composite power in future. This (economic, political and military) power has been growing almost dramatically in the past three decades.

Transfer of nuclear/missile systems and technology besides conventional arms to Islamic countries of Southern Asia. In particular, proliferation of missiles and nuclear weapons technology to Pakistan which continued after China acceded to the NPT in 1992, has been a source of serious concern for its short and long-term implications for India's security.

China shows signs of responding to the Western-North Atlantic Treaty Organization (NATO) strategy of NATO expansion, ballistic missiles defences (BMD), etc. by enhancing its strategic military posture.

Over 96 per cent of China's nuclear forces and ballistic missiles have relevance only for its immediate neighbours.

(b) Enhanced Nuclear Proliferation

Recent years have witnessed a rapid increase in nuclear proliferation with the following salient characteristics:

Iraq was almost on the verge of acquiring nuclear weapon at the outset of the 1990s, if the Gulf War of 1990-1991 did not take place, in violation of the treaty obligations with technology transferred from the NPT member countries, mostly from West Europe and North America.
North Korea pursued, and still pursuing, a clandestine nuclear programme in violation of its treaty obligations and was seen to be rewarded with nuclear reactors. Iran has reportedly been successful in pursuing a nuclear programme inspite of its NPT commitments. Saudi Arabia was also reportedly pursuing nuclear ambitions at one time.

China and France violated solemn assurances to exercise the 'utmost restraint' in nuclear testing to validate plans for new warheads. China, in fact, was cynical in carrying out a nuclear test within the hours of giving this assurance, at the NPT Extension Conference, while France regressed from its earlier moratorium.

Nuclear systems, particularly ballistic missiles, have been transferred by China and North Korea to Pakistan, Saudi Arabia and Iran. On 6 April 1998, Pakistan fired a nuclear capable intermediate range ballistic missile (IRBM) across its populated areas with the US responding only with mild regret compared with strong pressures brought to bear on India by the G-7 to give up its indigenous missile programme.

Pakistan reached successful nuclear weaponization by 1987 although had manufactured and tested a nuclear device in 1983. This test was believed to have been carried out in the Lop Nor region of China. Over the years, growing evidence has been piling up about significant transfers of nuclear technology to Pakistan from the West as well as from China.

China has continued to proliferate nuclear weapons technology even after its accession the NPT in 1992. A US Senate Committee in January 1998 stated: "China is the principal supplier of weapons of mass destruction and missile technology to the world, and US government efforts to turn Beijing against international proliferation have met with little success." (emphasis added).

Investigations in the United States have confirmed that design data with regard to all seven types of sophisticated US nuclear weapons has been transferred over the years to China through espionage. In specific, millions of lines of computer codes, extremely valuable for computer simulation and design of new sophisticated warheads, leaked from Los Almos Laboratories to China in 1994-1995. The implications of this proliferation are still being assessed.

(c) Eroding Prospects of Disarmament

The scenario obtaining in the aftermath of the end of the Cold War unluckily demonstrated a negative trend and the retreat of the international community in general and the nuclear weapon states in particular from the commitment to global nuclear disarmament. Developments like permanent
extension of the NPT without firm commitments to disarmament, submissions to the World Court by the weapon states, reluctance to convene fourth UN Special Session on Disarmament, blocking opening of negotiations for disarmament at the Conference on Disarmament (CD), and a host of other related developments indicated the unwillingness of the nuclear weapon states to move firmly towards global abolition of nuclear weapons. In the wake of these developments, when the goal of a nuclear weapon-free world was not likely to be realized or feasible, then the only option for India to ensure its security was through acquisition of nuclear weapons.

(d) Assertive Strategic Doctrines

The dominant strategic doctrines of the nuclear powers mostly again began to lay emphasis on the role and likely use of nuclear weapons even in non-nuclear situations. Russia resiled from its earlier commitment of no-first-use and defensive doctrine and has come to rely more heavily on nuclear weapons than ever before. NATO also continues to evade a no-first-use commitment inspite of the fact that Warsaw Treaty Organization (WTO) has been dissolved, and there has been a substantial degradation in potential conventional capabilities of its probable rivals. China has moved toward the doctrine of 'limited deterrence'. NATO's new strategic concept and corresponding nuclear doctrine reaffirm the doctrine for an enhanced role of nuclear weapons.

(e) Post-Cold War Global Order
The strategic environment obtaining in the post-Cold War period inevitably disturbed the earlier balance but in the absence of any over-arching ideological or strategic challenge, it was expected to become more benign and cooperative. However, this turned out to be confined to Europe only and many countries south of the NATO cooperation area have remained isolated thus far. Devaluing the UN system and reluctance to institute reforms in accordance with the altered geo-political realities and evolving a more cooperative international order has forced countries outside the alliance system to think more seriously about autonomous capabilities. Attempts at imposing 'unipolarity' have increased apprehensions about the international order managed more by denial regimes and punitive action than democratic values. The effect of the new strategic environment is increasingly narrowing down national sovereignty. Under these circumstances, India’s efforts at cooperation did not bring about adequate understanding of its security concerns. It was increasingly forced to rely on its national options.

(f) Threat to Nuclear Option

The most serious impact of aggressive non-proliferation and counter-proliferation, without disarmament during the 1990s came to portend an extremely serious threat to India’s policy of keeping its nuclear option open. India was confronted with a dual challenge after 1990 to which it had to either to submit and go down the slippery slope to be disarmed without any solution to its security concerns, or cross the threshold that it had preferred not to for three decades:
• A basic challenge since 1964 was of how to build strategic capabilities at the very minimum level as an interim measure while working for global disarmament. This policy took the shape of keeping the nuclear option, not weaponizing, and working for disarmament. It was perhaps not adequately appreciated that this was a policy of restraint.

• To this was added a new challenge since the beginning of the 1990s, of protecting the policy of restraint from the Western liberal democracies, led by the United States, targeting this policy in pursuit of their own respective agendas. India was specifically targeted under these non-proliferation policies thus creating a threat to the continuity of the policy of keeping the option open at the non-weaponized level.

(g) The CTBT Deadline

The negotiated draft of the Comprehensive Test Ban Treaty (CTBT), as it emerged in June 1996, not only violated the original mandate of the 1993 UN General Assembly, failed to address India’s concerns. India, therefore, articulated its unwillingness to sign the CTBT but made it clear that it would not come in the way of the treaty coming into force. However, in violation of all norms, the international community brought forth a draft at the end of July 1996 that sought to impose the CTBT on India through the stipulation of Article XIV, making India’s (among others) signature as a *sine qua non* for the treaty coming into force. At the same time, an implicit threat of punitive action was held out in the shape of 'measures' to be taken if the treaty did not enter into force three years later. Thus, the CTBT clock timed to September 1999 was ticking whereby India could face punitive measures if it did not sign the CTBT even if it did not weaponize. This created a time-bound imperative for declaration of weapons capability. India’s decision to go nuclear was further propelled by the *Ghauri* intermediate range ballistic missile test by Pakistan to which US reaction was only mild regret.
**Nuclear India’s Policy**

India’s nuclear policy, after its being declared as state with nuclear weapons\(^4\) can be summed as follow:

**(1) Total Abolition of Nuclear Weapons**

Total abolition of nuclear weapons at an early date continues to be the central goal of India’s nuclear policy. This will remain predicated on:

- Delegitimization of nuclear weapons and change in the belief systems and motivations for nuclear weapons;
- Phased, if not time-bound, negotiations and conclusion of a universal treaty for the abolition of nuclear weapons;
- Narrowing the window of nuclear weapons utility.

**(2) Nuclear Policy**

Nuclear policy of India, which is a state with nuclear weapons, is predicated on:

- Doctrine of Minimum credible nuclear deterrence’
- Strategy of no-first-use, survivable force and violent retaliation to a nuclear attack;
- Posture of recessed deterrence in tune with the doctrine;
- Command and control firmly with the political executive head.

**(3) Cooperative Approach to Arms Control**

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.

**(4) Strategic Stability**

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.

**REVIEW OF LITERATURE**

Proliferation of nuclear weapons in general and India’s nuclear policy in particular has spawned keen interest among the academia, media, research scholars in India as well as abroad, and other segments of the international community. This is evident from the plethora of literature that is available in the form of books, research articles, media reports, statements of Indian leaders and leaders of other countries, debates in the Indian Parliament, Pakistan National Assembly and US Congress etc. In order to comprehend complex issues involved in the nuclear proliferation and its impact on India’s national security and the resultant nuclear policy being pursued by it and an assessment of India’s nuclear capabilities to meet its security requirements, it is essential to rummage through the available literature so as to ascertain as to what extent the existing literature has dealt with these and other related issues and what areas still remain unexplored. Viewed in a broad perspective, it is physically impossible to go through each and every bit of information available on the subject under consideration. Thus, works of selective prominent scholars in the form of books and research articles have been reviewed briefly here.
Campbell, Einhorn and Reiss in their jointly edited book\textsuperscript{15} have examined the question whether, more than half a century after the advent of the nuclear age, the world is approaching a tipping point that would unleash an epidemic of nuclear proliferation. Today many of the building blocks of a nuclear arsenal—scientific and engineering expertise, precision machine tools, software, design information—are more readily available than ever before. While asserting that the nuclear pretensions of so-called rogue states and terrorist organizations are much discussed, the editors of this volume have posed the question as to how firm is the resolve of those countries that historically have chosen to forswear nuclear weapons. A combination of changes in the international environment could set off a domino effect, with countries scrambling to develop nuclear weapons so as not to be left behind—or to develop nuclear ‘hedge’ capacities that would allow them to build nuclear arsenals relatively quickly, if necessary.

The book examines the factors, both domestic and transnational, that shape nuclear policy. The authors, distinguished scholars and foreign policy practitioners with extensive government experience, develop a framework for understanding why certain countries may originally have decided to renounce nuclear weapons—and pinpoint some more recent country-specific factors that could give them cause to reconsider. Case studies of eight long-term stalwarts of the nonproliferation regime—Egypt, Germany, Japan, Saudi Arabia, South Korea, Syria, Turkey, and Taiwan—flesh out this framework and show how even these countries might be pushed over the edge of a nuclear tipping point.
The authors offer prescriptions that would both prevent such countries from reconsidering their nuclear option and avert proliferation by others. The stakes are enormous and success is far from assured. To keep the tipping point beyond reach, the authors argue, the international community will have to act with unity, imagination, and strength, and Washington’s leadership will be essential. It is partially useful for the present study.

Nathan E. Busch in his book\textsuperscript{16} addresses one important half of the nuclear proliferation problem and says relatively little about the motivations of the countries acquiring nuclear weapons in the past or in the future, i.e. about the strategic or political calculations behind such proliferation, and he thus does not spend much time discussing the likelihood of further proliferation. Rather, the book offers a detailed and well-researched survey of the immediate consequences of such proliferation, of the risk that weapons might go off by accident or as a result of insubordination, or that nuclear materials might slip out of control into the hands of additional nations or even those of non-state actors. He offers a careful review of the experience of the United States, Russia and China to see what lessons can be extracted from these nuclear powers on the management of nuclear command and control, and on nuclear material protection, control, and accounting (MPC+A). The British and French experience is not discussed, on the argument that these democracies will have largely matched the American experience.

Additional chapters discuss about the Indian and Pakistani track record on the control of nuclear weapons and nuclear materials, and of American
experience with Iraq, Iran, and North Korea. The author does not offer any real
discussion of the Israeli experience, on the argument that it is "extremely
difficult to obtain much reliable information on its nuclear weapons systems."
Yet the same issues of reliability must emerge on the reports we have to sort
out on Iran and North Korea (as well as on all of what we thought we knew
about Iraq), and there may also be issues of "reliability" in the reports of
"materials-unaccounted-for," or of near-failures in the nuclear command-and-
control systems, in the major nuclear powers as well.

The book, confined mostly to non-classified information, pulls together
almost all of such reports in a very well-written account, and hence will be
must-reading for anyone working on nuclear proliferation issues in the future.
Replete with detail on the many ways that nuclear weapons could get used or
could get lost, Busch's book offers a powerful antidote to the first part of the
above 'optimism.' However, it does not delve far into the second part of the
pro-proliferation argument, by which Israel may have won Arab acceptance of
its existence in a very hostile neighborhood simply because of all the rumors
that it has acquired nuclear weapons.

On the first part of the optimistic-pessimist argument, the book certainly
offers a powerful reinforcement for what most Americans (and most nations
around the world) most probably already accept, that it is important to make a
strong effort to keep nuclear weapons from spreading. Indeed, there are some
tough trade-offs involved here, where the policy choices are not at all so clear
or easy. In the book's relatively shorter section on policy recommendations,
the author approves of further reductions in the American and Russian nuclear arsenals. These would of course make sense in that the smaller the arsenals, the easier it is to make sure none of the bombs slip out of control. But the concomitant that smaller arsenals reduce the risk of premature use, or reduce a reliance on launch-on-warning, etc., may not be so clear. It is also not so certain that major reductions in the Russian and American nuclear arsenals would discourage horizontal nuclear proliferation rather than encouraging it.

Another tough choice gets discussed a little in the book, but then gets perhaps too quickly brushed aside, regarding whether to offer the latest in permissive-action-link (PAL) command-and-control technology to countries like India and Pakistan. To do so would indeed seem to be rewarding proliferation rather than punishing it. But to do so also would in some cases reduce the risk of accidental use, or the risk of still further proliferation if there were an attempt to steal bombs from these countries. the book has partial utility for the present study.

Praful Bidwai and Achin Vanaik in their jointly authored book have dealt with the scenario emerging as a sequel to India conducting the nuclear tests in May 1998, and joining the discriminatory global nuclear order it had long criticized - and Pakistan followed suit. In this backdrop, the authors raise penetrating questions like - what impelled the two South Asian neighbours to nuclearize, especially just when a global momentum of nuclear disarmament, not just arms control, was emerging for the first time in the nuclear age? What is the likely impact of this fateful decision on nuclear disarmament prospects
on regional security, especially on the sub-continent's societies? The book while offering answers to these questions advances a thoroughgoing and incisive critique of reliance on nuclear weapons for security. In exploring domestic, regional and international factors behind South Asia's nuclearization, the authors offer an analysis that is at once theoretical and empirical, ethical and political, as well as rooted in the specific emergence of a belligerent, exclusivist, communal nationalism in both India and Pakistan.

While evaluating the impact of nuclearization on South Asian and world security, the authors span a range of issues: the ethics of war, the irrationality of nuclear deterrence, changing power equations since 1945, and alternatives to a nuclear arms race. An argument is advanced by the authors that nuclearization has degraded not only India and Pakistan's security and global stature but will do little to deter conventional conflicts. In fact it is liable to draw them and China into a potentially ruinous arms race. Therefore, new arms challenge to the global nuclear order posed by South Asian developments calls for imaginative response from the peace movement.

Gary T. Gardner in his book⁰⁸ asserts that the effort to control the spread of nuclear weapons has been more successful in the past half century and is more firmly institutionalized today than ever before. Still new challenges stemming from changes in technology, governments and international politics appear constantly on the horizon. Common to all these challenges is the problem of providing access to nuclear technology for peaceful purposes while preventing its diversion to military use.
The changing face of non-proliferation by international events such as the Gulf War and unravelling of the former Soviet Union creates a demand for new blood in the field. The book provides a comprehensive overview of non-proliferation, from the technical basics to the history and politics of non-proliferation efforts. Because the science of nuclear energy is at the heart of the non-proliferation challenge, the book begins with an introduction to nuclear fission, followed by description of the nuclear fuel cycle and nuclear reactors. Other issues addressed in the book include international nuclear safeguards, politics of non-proliferation, Non-Proliferation Treaty (NPT), nuclear capabilities of selected countries and challenges to the non-proliferation regime.

The book authored by Cassady Craft provides insight into trade offs between weapons sales and the probability of conflict. By using innovative techniques and drawing on a variety of theories and quantitative methods, including force-on-force attrition models, the author has written an empirical study that examines the influence of arms transfers on combined inter-state and civil wars. Among the other topics analyzed are correlations at the state and global levels, supplier and recipient relationship etc.

K. C. Bailey in her edited book advances the argument that weapons of mass destruction - nuclear, chemical, biological or toxic - are within the reach of many countries. Commonly it is thought that possessing such weapons provides the benefit of increasing security. The principal cost is seen as the cash outlay required to obtain weapons, which is significantly less than
building and maintaining a conventional force of comparable capability. But are these assumptions true? The book explores the question of cost versus benefit of having weapons of mass destruction from the perspectives of nations, which have already acquired those weapons. Authors from each country describe some of the considerations that should be taken into account in any debate by a country contemplating acquisition or retention weapons of mass destruction.

Delvin T. Hagerty in his book examines relationship between two emerging nuclear powers - India and Pakistan - to assess how nuclear weapons have changed their foreign and military policies. Even before India and Pakistan tested their respective nuclear weapons in May 1998, both countries believed that the other country was capable of assembling the bomb. In recent years, their respective governments had conducted their diplomacy in the shadow of nuclear suspicions. The author analyzes as to how India and Pakistan interacted in diplomatic and military circles prior to their 1998 nuclear tests. While presenting a detailed account of the January 1987 Indo-Pak crisis, perpetrated by India's Brasstracks military exercises and the 1990 confrontation over Kashmir, the author finds that the two countries nearly went to war in the Brasstracks crisis, at least partly because, Pakistan's nuclear capability remained nascent. In the 1990 crisis, however, both countries were aware of the possibility of nuclear escalation and acted more cautiously. The author finds little evidence of preparation for pre-emptive nuclear strikes in the 1990 crisis. Instead, India and Pakistan had embraced the logic of nuclear
deterrence. The author concludes that relations between India and Pakistan in recent years support the argument that nuclear proliferation does not necessarily destabilize international relations and may even reduce the risks of war.

The book\textsuperscript{22}, authored by Bharat Karnard, deals with the nature of the Indian strategic mindset and policies. The gradually changing policies behind India's covert nuclear weaponization programme until the first nuclear test in 1974, and the subsequent nuclear crawl eventuating in the series of explosive tests in 1998, is analyzed in this book. As also the changes in the strategic calculus and in the thinking about deterrence and nuclear weapons within the government and defence science establishment, the military and the bureaucracy.

The pressures and pulls over the last five decades to weaponize or desist from doing so, are revealed in the book as are the measures that were contemplated (like pre-emptive strikes on Pakistan's nuclear facilities) to neutralize threats. The various nuclear planning options available to India have been weighed and the case for India acquiring a sizeable megaton thermonuclear deterrent slaved to intercontinental ballistic missiles has been argued both in terms of the strategic threat posed primarily by China, potentially by the United States, and minorily by Pakistan and of maximum politico-military pay offs.

The book\textsuperscript{23}, edited by Jasjit Singh, then Director of the Institute of Defence Studies and Analyses (IDSA), was published soon after India had conducted
its nuclear tests in May 1998. India's May 1998 nuclear tests ended country's three decade-old self-imposed restraint on its emergence as a nuclear power. Following India's announcement that it was now a nuclear weapon state, a new phase in India's security calculus began. India's nuclear policy is almost six decades old, but the policies of a nuclear India started in the post-Pokharan-II period.

At the national level, the tests necessitated articulation of a more unambiguous policy for India as a nuclear weapon state. The country has now to dwell upon the doctrine and strategy for an affordable credible nuclear deterrence and to put into place necessary command and control systems and minimize the risk of nuclear exchange caused by accident or miscalculation.

India's tests and decision to go nuclear were conditioned by the shift from disarmament to non-proliferation and the constriction of the non-proliferation order. India had to break out of this tightening stranglehold, which threatened to squeeze the open option into irrelevance. At the regional level, the Indian tests were triggered by increasing evidence and extent of nuclear and missile proliferation that had long existed in the region. Strategic cooperation between nuclear weapon states at one level, and China and Pakistan at the other, created a matrix with deeply negative implications for India's security. By going nuclear, India seeks to reshape a strategic environment, remove the adverse asymmetry that had been growing and put in place capabilities to deal with strategic uncertainties in a world in transition in order to protect its security and vital interests.
This volume attempts to explore and explain the whole range of these issues in order to extrapolate logical policy positions that the country would need to evolve at various levels. The complexities accompanying India’s emergence as a nuclear weapon state have been explained to build a complete picture.

The articles contained in the book\textsuperscript{24}, edited by M. L. Sondhi, are the outcome of a workshop held in June 2000 for an intense and deep exchange of views among leading scholars, policy makers and he nuclear scientists on fundamental trends that are shaping the nuclear challenges facing India. A wide range of subjects from fundamentalism to terrorism to regional and international security, China’s nuclear capabilities, and missiles proliferation and bargaining asymmetries between New Delhi and Beijing etc., are dealt with in this book.

While stating that India’s nuclear doctrine is based on maintaining a minimum credible deterrent and a no-first use policy as opposed to nuclear war fighting doctrines or postures of launch on warning, the book\textsuperscript{25} edited by S. K. Mishra, presents the argument that it is, therefore, natural for India to take initiatives that aim to reduce the threat of break out of nuclear war. The main objective of India’s nuclear policy is to ward off the threat of nuclear war, half the arms race and safeguard and strengthen universal peace. While taking a stock of India’s nuclear policy, the book also deals with India’s National Missile Defence (NMD) and the United States, Indo-US relations, Nuclear diplomacy of India vis-à-vis Pakistan, NPT, nuclear deterrence, Asian
strategic environment, the impact of Indo-US deal on India's nuclear policy, the economics of nuclear proliferation, and India as the nuclear weapon state and its nuclear doctrine etc. This book is helpful for the present study.

The book authored by V. N. Khanna traces the origin and proliferation of nuclear weapons in the world beginning with the first test by USA in 1945, and the eventually cataclysmic use of the atom bomb over Hiroshima and Nagasaki. The author argues effectively that while remaining committed to its advocacy of complete nuclear disarmament, India is only too aware of its need to maintain nuclear deterrence so long as weapons of this nature remain with the other nuclear powers. World peace, however, is India's priority and the author makes a dynamic case for the claim that the weapons of nuclear India are no threat to international peace and security. While tracing origin and proliferation of nuclear weapons, the book deals with evolution of India's nuclear policy, nuclear option exercised, India's nuclear doctrine of no-first-use and minimum credible deterrence, India's commitment to a nuclear-weapon-free world and nuclear India and world peace. It is partially useful.

Arpit Rajain in his book has argued that South Asian mutual nuclear deterrence can work every bit as well as deterrence between Washington and Moscow. Drawing on a very extensive range of literature, the author compares India-Pakistani crisis behavior since the 1998 nuclear tests with the Cuban missile crisis, and with the Sino-Soviet crisis on the Ussuri in 1969, arguing the minimal nuclear deterrence is not at all guaranteed to hold each side to the constraints of limited war. On such issues of the viability of deterrence, there
has always been a debate between the analysts who attach great importance to the ethnic and historical peculiarities of each of the nuclear powers, and those who argued that the nuclear problem basically had to be seen the same way in Moscow and Beijing as in Washington (with the important difference being that the communist dictatorships could pretend to see things differently), and then must again be seen the same way in Delhi or Islamabad.

By the latter view, every serious state has to be aware of the enormous destruction that nuclear weapons could inflict (the "counter-value" impact), and also aware of the possibility that nuclear weapons might under some circumstances facilitate a military victory (the "counterforce" effect). By the former view, one must first read all the statements on strategy issued by any other nuclear power, before concluding that such a power sees things in at all the same way that we do.

The book is intended to cover China as well as South Asia, but one comes away from the book with the impression that Indian policy is not at all fixated on a nuclear confrontation with Beijing (even if the Chinese nuclear arsenal was always the official Indian excuse for moving to the bomb), but instead on the confrontation with Pakistan. While China may have cooperated with Pakistani nuclear development, Beijing has been surprisingly detached and neutral in recent crises in South Asia, and has markedly improved its relations with India. The book has little utility for the present research work.

Paul J. Bolt and Albert S. Willner, in their edited book, have compiled a collection of papers delivered at a conference convened by the American Air
Force Institute for National Security Studies in 2003. It offers in-depth analysis of Chinese strategic thinking and nuclear programme evolution. While a number of the chapters again introduce some of the old assumptions that Chinese thinking might somehow be culturally different, along the lines of the early Maoist statements dismissing the importance of nuclear weapons, the authors move ahead fairly rapidly to demonstrate how nuclear weapons are indeed taken very seriously in Beijing, and the variety of ways that they might be taken seriously. Appropriate note is taken of the possibility that American developments of missile defenses might frighten China into a substantial augmentation of its nuclear forces, and several of the authors have closely examined how Chinese nuclear weapons might play a role in a crisis involving Taiwan. However, the book is extremely valuable for all the arguments it pulls together. It specifically addresses recent developments in Chinese nuclear choices, offering evidence for both optimism and pessimism. It is partly useful.

N. Ram's book offers a balanced and reasoned analyses of contemporary developments prevailing in South Asia in 1998-1999, particularly in the wake of May 1998 nuclear tests that threw diplomatic and moral caution to the winds. It provides the right kind of introduction to a political universe befuddled with rumour and error, as well as sheer mendacity from the powers that be. Nevertheless, deterrence across the Indo-Pak border demands far stricter standards than that assumed for the United States-USSR. Among other limitations, the minuscule warning time means that the military on both sides will remain on hair-trigger alert. The author demonstrates how
neither India nor Pakistan possesses the infrastructure for deterrence, nor can they currently afford to build such a costly infrastructure. As a response to this dilemma, the Indian government put forth the theory of the ‘minimum credible deterrent,’ but what is not clear is what is minimum or what is credible. The author underscores the illusion of security, indeed the intensification of insecurity, in the vise of atomic diplomacy. This book is partly relevant for the present research work.

The book jointly edited by D. R. SarDesai and Raju G. C. Thomas provides an important picture of India’s nuclear intentions and capabilities at the beginning of the 21st century. Academic and governmental experts from both the United States and India explore the strategic, technological, military and economic dimensions of India’s nuclear world. The contributors bring their expertise together in an unusual mix of viewpoints from three continents on the several dimensions of a nuclear India at the turn of the century. It is an important resource in the United States to help policymakers respond to the regional and global proliferation problems that have resulted from India and Pakistan’s nuclear tests of 1998. It is an important aid to India in exploring and evaluating its nuclear strategy and the political, economic and military consequences of its nuclear decisions. It entails some utility for the present research work.

Sumit Ganguly and D. T. Hagerty in their jointly authored book have attempted to examine the question whether the nuclear weapons have made war an impossibility between India and Pakistan. Their main argument is that
nuclear weapons have effectively contained the prospect of full-scale war between the two nuclear South Asian states. The two major confrontations of Kargil in 1999 and the military standoff of 2002 are used as case models to examine and prove the argument. The authors conclude that, in all likelihood, Pakistani possession of nuclear weapons played a crucial role in inhibiting India from engaging in a full-scale war during the Kargil crisis and in 2002. The authors provide a useful, even if a limited prism, through which to view the role of nuclear weapons in India and Pakistan. The book's value lies in showing up the distance yet to be covered in understanding the changing conflict dynamic between India and Pakistan.

Wendy L. Lichtenstein in his short but thoughtful review article\textsuperscript{32} has argued that throughout the Cold War nuclear security issues dominated a substantial measure of foreign policy, and even now, in the post-Cold War period, nuclear weapons remain as a prominent security issue not only for the United States, but also for much of the international community. For decades the primary political actors, Washington and Moscow, have undertaken a multitude of security cooperation initiatives to reduce their nuclear weapon arsenals, control nuclear proliferation, enhance physical security, and prevent mishaps. While they have made much progress, threats to stable international security arrangements continue to arise from the challenges of shifting politics—such as America’s recent withdrawal from the Anti-Ballistic Missile Treaty, Russia’s new first-use nuclear doctrine against domestic and external threats, and the emergence of aspiring nuclear nations.
R. Budania in his research article\textsuperscript{33} explores the nature of the emerging international security system and its positive and negative implications for India's calculus. According to the author, the key characteristics of the international security system are confrontation and cooperation and accommodation; and these envisage several possibilities of threats, challenges and opportunities for India. To India's credit, despite the worsening of its geo-strategic environment, the country's policy making structure have displayed the capacity to remain flexible and responsive to changes for furthering its security and national interests. The author insists on having well-articulated policies and strategies that can meet not only the present-day concerns and uncertainties, but also have the capacity to meet country's future needs.

It is argued by Smurti S. Pattanik in her research article\textsuperscript{34} that the debate on the rationale for Pakistan's possession of nuclear weapons, the concept of nuclear deterrence and the security of Pakistan has been intertwined. Asserting that many Pakistani defence analysts see both deterrence as security as synonymous, the author presents an analysis of Pakistan's nuclear strategy in the context of first, its threat perception, second, its plan to achieve parity with India and third, its objective after the tests to portray Kashmir as the nuclear flashpoint to persuade the international community's indulgence and intervention to resolve the issue. It is argues that Pakistan, like India, has maintained nuclear ambiguity and mentioned the deterrence value of its nuclear strategy. While analyzing Pakistan's nuclear diplomacy, the author
discusses its nuclear doctrine, its nuclear strategy in the context of the Kargil conflict (1999) and the recent stand off with India to examine the extent to which it has been able to achieve its objectives of nuclear deterrence. It also deals with the impact that Pakistan's nuclear strategy has had on its Kashmir policy.

While distinguishing between arms control, proliferation and non-proliferation, Ramesh Thakur, in his research article, asserts that whereas norms, not deterrence, have anathematized the use of nuclear weapons as unacceptable, immoral, and possibly illegal under any circumstances - even for states that have assimilated them into military arsenals and integrated them into military commands and doctrines. The author further adds that the 1998 nuclear tests conducted by India and Pakistan were such a shock to the international community precisely because they challenged the settled patterns of behaviour in terms of the NPT regime.

In author's opinion, the 1998 nuclear tests destroyed the Indian summer of complacency induced by the indefinite extension of the NPT in 1995 and the adoption of the CTBT in 1996. Certainly in the case of India, and reactively in the case of Pakistan as well, the international community paid the price of attention deficit syndrome. In his final analysis, the author strikes a note of caution when he says that there is likelihood of more widespread horizontal proliferation taking place because of actions and inaction of the NPT-N5, rather than that of the non-NPT-N2 (the two nuclear powers not recognized as such by the NPT).
P. M. Kamath in his article presents a comparative analysis of the responses of Canada and the United States toward India's 1974 PNE and May 1998 nuclear tests. While tracing out the reasons behind Canada's more moderate response to India's 1998 nuclear tests as compared to 1974 PNE, the author contends that conversely, the US had taken a mild stand against India in 1974 comparable to the tough Canadian stand against India whereas in 1998 the trend was again reversed. In his final analysis, the author categorically avers that the goal of non-proliferation can be attained only when the major nuclear powers— the US, Russia, Britain, France and China—who are also the permanent members of the UN Security Council, take the lead in reducing drastically their nuclear arsenals, with the aim of achieving time-bound nuclear disarmament.

Nicolas K. Laos in his research article, while presenting the international security scenario as prevalent in the Post-Cold War period, contends that in the long run, the international system will discourage the concentration of power in the hands of a single state. He identifies six main geopolitical actors, i.e. states that can challenge the geopolitical image of the world, namely, the United States, European Union, China, Japan, Russia and India. In his analysis of regional security, the author expresses the opinion that the potential users of weapons of mass destruction are mainly individual desperados and Third World states or movements opposed to the West, therefore, in addition to trying to minimize the potential aggressors' capabilities
of realizing their threats, the West must try to modify the potential aggressors' intents by using diplomacy as a means of spreading prosperity.

Gurmeet Kanwal in her research article\textsuperscript{38} asserts that India's nuclear structure should flow out of the nuclear doctrine and the national security strategy. In author's opinion, India's nuclear force must be based on its declared strategy of 'no-first-use' and should be capable of 'punitive retaliation'. Contending that a nuclear force structure must be dynamic and flexible enough to evolve suitably in synchrony with the technology trajectory as, more than any other military force, the author is the view that nuclear weapons and their delivery systems are heavily dependent on emerging technologies. India's nuclear force structure, as argued by the author, should also be adaptable to changes in threat perceptions and be adjustable enough to give effect to bilateral or multilateral treaties that could be negotiated in future.

K. Subrahmanyam in his article\textsuperscript{39} dwells on both conventional as well as nuclear threats to India's security, particularly in the context of post-Cold War period. While lamenting at the lack of appreciation of the past history of wars on the part of the politicians as well as the bureaucracy, he asserts that such indifference to history comes in the way of development of correct understanding and appreciation of the adversary's mindset. He also laments at the growing tendency of India’s political class and the media, to a certain extent, to politicize issues of national security in a partisan manner. According to author, there is not sufficient awareness in the Government of India that the
country is not equipped to plan long-term national security policy and at best, it is equipped to carry out short term and current security management, which in author’s view is a crucial challenge to national security. While laying emphasis on attitudinal changes toward national security, he calls for taking steps to get the National Security Council working.

Zhang Guihong in his article states that American policy towards South Asia can be divided into three stages: balance of power during the Cold War era, beyond balance of power in the aftermath of the end of the Cold War and new balance of power after 11 September 2001. According to the author, the Cold War witnessed an allied Pakistan and US rival the close relations between Moscow and New Delhi in the subcontinent. Yet South Asia became a low priority in American South Asian policy in the early years of the post-Cold War era compared to other regions, especially East Asia and the Middle East.

In his attempt to draw attention toward three events that impelled America to focus on the region in the late 1990s, the first such event, according to the author, was that both New Delhi and Islamabad exploded a total of eleven nuclear devices in May 1998. Thereafter the two neighbours came into conflict in Kargil from May to July 1999, which culminated in a bloodless coup in Pakistan in October 1999. Thirdly, the US President Bill Clinton’s visit to South Asia in March 2000 topped off a changing US South Asia strategy with a warm Washington-New Delhi rapprochement. The Bush Administration continued to transform the US-Indian relationship.
While beginning with a brief appraisal of the significant changes in US policy towards India and Pakistan during the second term of the Clinton Administration in the late 1990s, the author proceeds to address US security policy towards India and Pakistan in the aftermath of 9/11. After having made some observations about US policy options in post-9/11 South Asia, the analysis proceeds to discuss the implications for China of the changing US strategy in the region from the lens of 'triangles', which include a US-China-India triangle, a US-India-Pakistan triangle, and an India-Pakistan-China triangle.

R. K. Mishra in his article, while referring to growing nuclear collaboration between Pakistan and China, laments that any news of China supplying Pakistan with anything in addition to the support given in the past raises international alarm and in fact, it has led to perilous proliferation consequences. Still, the nuclear component always remains high on the agenda of the 'all weather' friendship between China and Pakistan. The dynamics of nuclear cooperation between the two countries involve a number of issues, mainly, securing the non-proliferation regime, Pakistan's dependence on outside support for working on the fuel cycle, and the proliferation vulnerabilities in Pakistan. Asserting that China has for long followed a proliferation embedded foreign policy approach to score strategic gains; it is argued by the author that China's role in nurturing the nuclear ambitions of Pakistan and North Korea is now being widely debated. He also cautions that without structuring effective international mechanisms to rectify
the lapses as reported in Pakistan, the expansion of nuclear infrastructure in that country would remain open to potential proliferation vulnerabilities.

Based on her testimony before the US Congress in June 2007, Lisa Curtis’s article\(^4\) is based on the contention that the potential for the intersection of terrorism and nuclear weapons is arguably the greatest threat to American national, even global, security. The author cautions Washington to consider carefully its policies toward Pakistan as the U.S. seeks to deter the possibility of terrorists gaining access to nuclear weapons. Citing the example of Pakistani nuclear scientist A.Q. Khan’s nuclear black market and proliferation network and the resultant devastating consequences of nuclear proliferation by individuals with access to state-controlled nuclear programmes, the author laments that the more worrisome trend in Pakistan is the links between some retired military and intelligence officials and nuclear scientists to Taliban and al-Qaeda terrorists. Given the tangled history of U.S.-Pakistan relations, especially with regard to Pakistan’s nuclear weapons programme, the author pleads that the best chance for success will lie within a framework premised on a robust U.S.-Pakistan partnership based on trust and mutual understanding.

While asserting that the management of internal security is a vital component of overall security management, Ved Marwah in his article\(^5\) explicitly states that effective management of internal security can keep subversion by the external forces under check. However, he laments that the rise of contentious politics based on sectarian, ethnic, linguistic or other
divisive criteria, is primarily responsible for the many communal and secessionist movements flourishing in India. The presence of hostile neighbours enables the internal conflicts to get external support, which includes money, arms and sanctuaries. The vested interests exploit these conditions to pursue their own agenda. According to the author, terrorism, insurgency in India’s north eastern states, drug-trafficking, naxalite violence and emergence of armed groups in many states portend serious threat to internal security. The continuing tensions between India and Pakistan have further complicated the internal security situation. Reduction of ethnic and social inequalities, disparities in educational and employment opportunities, and creation of effective machinery for the redressal of public grievance, along with a well-coordinated security apparatus are the measures suggested by the author to effectively deal with threats to internal security.

Virendra Gupta’s article makes it discernible that the world strategic landscape is constantly evolving in the post-Cold War where an increasing number of countries and regional groupings are capable of seriously impacting on the global affairs. USA, China, European Union and Japan are dominant entities. Russia's resurgence as superpower is on the fast track. World has also begun to take notice of India because of its sustained high growth rates and leadership role in the human resources area particularly in the IT and other high technology sectors. According to the author, opportunities for cooperation amongst states have not only risen manifold but there is a growing recognition worldwide that cooperation is indeed imperative to
effectively deal with emerging non-traditional security threats in diverse areas ranging from terrorism and organized crime to environmental degradation and spread of diseases. India is seeking to develop close relations with each of the major powers in a manner that its relationship with one country does not impinge negatively upon its relationship with the others. According to the author, India’s interest would be best served by developing strategic partnership with both China and US as well as the other major powers, simultaneously, on an equal footing in a mutually non-exclusively manner with self-confidence becoming of a big power.

Lisa Curtis in her article⁴⁵, while referring to growing recognition of India’s rising power status by the international community, states that India is adapting its foreign policy to meet the international challenges of the 21st century and to increase its global influence and status. In the past few years, New Delhi has expanded its strategic vision, most noticeably in Asia, and has broadened the definition of its security interests. While India has focused special attention on cultivating ties to the United States since 2000, the overall thrust of its foreign policy has been to seek geopolitical partnerships in multiple directions to serve its national interests. It has pursued special relationships with the U.S., Russia, China, and key European countries. asserting that India’s foreign policy is based on twin premises of ‘no extra-territorial ambition and no export of ideology’, the author tries to explain India’s policy of simultaneous improvement in its relations with the U.S., EU, and Russia and Southeast Asia, Japan, Korea, and China demonstrates broadening Indian
engagement across the globe, especially in Asia, is in the U.S. interest and should be further encouraged.

It is revealed from the brief appraisal of the representative literature on non-proliferation, India’s nuclear policy and security that most of these works are useful in understanding the complexities shrouding the issues. However, this information is available in bits and parts thereby is unable to present a cohesive and cogent picture of the types of nuclear threats confronting India as well as India’s preparedness to meet nuclear threats as well as India’s policy options to ward of nuclear risks and seek solutions through diplomatic recourse or through conventional means. Besides, the existing literature leaves many penetrating questions having bearing on India’s nuclear policy vis-à-vis its national security as untouched.

RESEARCH DESIGN

While rummaging through the representative literature many questions had cropped up in present researcher's mind, and these are as follow:

- Why it took about 24 years for India to declare itself as a State with Nuclear Weapons?
- Is India’s Nuclear Doctrine sufficient to ensure its nuclear security?
- Will nuclear proliferation spread further in the aftermath of both India and Pakistan going nuclear?
- Does India’s doctrine of on-first-use guarantee security against nuclear China and nuclear Pakistan?
- Will India be accepted as the sixth member of the privileged club of Nuclear Pentapoly?
- Will qualitative improvement in India’s nuclear arsenal trigger nuclear arms race in South Asia in particular and the world in general?
- With nuclear weapons in its possession, can India afford to lax in its programme of defence modernization without affecting its security?
It is in the backdrop of these and other related questions, for which present researcher’s attempts to find suitable answers proved fruitless while going through the existing literature. Earnest endeavours have been made to find appropriate answers to these and other related questions in the present study.

**STATEMENT OF THE PROBLEM**

In the background of the above-mentioned scenario, the present researcher has selected the following topic for his proposed research *Meeting Nuclear Threats: An Evaluation of India's Nuclear Policy and Capabilities.*

**HYPOTHESES**

Following hypotheses have been tested in the proposed study:

(i) Nuclear weapons will enhance India's security;
(ii) India's nuclear doctrine is vague and ambiguous;
(iii) India as a State with nuclear weapons can espouse the cause of total abolition of nuclear weapons and nuclear disarmament more convincingly;
(iv) Nuclear weapons do not diminish the importance of conventional weapons;
(v) Qualitative improvement in India's nuclear weapons along with numerical superiority over its neighbours will serve as effective deterrent;
(vi) Nuclear weapons alone are no sure and sole guarantee for security;
(vii) India's emergence as a State with nuclear weapons has enhanced its prestige and stature in the international comity of nations.

**OBJECTIVES OF THE STUDY**

The present study serves the following objectives:

a) To analyze the paradigm shift in India's nuclear policy from a staunch opponent of nuclear weapons to emerge as a State with nuclear weapons;
b) To appraise the role of nuclear weapons in enhancing India's national security;
c) To examine relationship between nuclear proliferation and national security;
d) To examine whether nuclear deterrence leads to stability and peace;
e) To analyze nuclear India's potential in stemming nuclear proliferation;
f) To examine the efficacy and viability of India's nuclear doctrine, particularly its commitment to no-first-use vis-à-vis India's security.

SCOPE OF THE STUDY

The present study is comprehensive and significant in scope because it deals with the problem of nuclear proliferation from different perspectives, taking into account the viewpoints of nuclear powers and appraising their impact on the nuclear and security policies of the developing countries in general and India in particular. As the present study critically examines India's nuclear doctrine, particularly India's commitment to 'no-first-use' principle, hence it is likely to shed new insights on the tedious issues of national security vis-à-vis nuclear weapons as well as related nuclear doctrines. Analytical assessment of strategic threats to India's security from China, potential threat from American nuclear weapons as well as threats from Pakistan's nuclear weapons, as briefly dealt with in this study has seemingly enhanced the academic worth of the study owing to its multi-faceted analysis of current security related issues vis-à-vis nuclear proliferation.

The study also critically examines India's current nuclear capabilities to meet country's security requirements as well as the nuclear cooperation agreement signed in July 2005 between Washington and New Delhi with regard to civilian nuclear energy programme. It explores different areas of
nuclear cooperation between India and other nuclear powers in order to suggest measures to enhance such cooperation with the twin objectives of utilizing the nuclear energy for economic growth and win the confidence of other nuclear powers as a reliable nuclear partner. This will help India gain recognition to its nuclear status and as a responsible nuclear power that can be trusted and relied upon in discharging its nuclear related international responsibilities. Thus, the present study entails the potential of opening up new vistas for further research in related areas. Findings and appropriate suggestions emerging from this study will be useful for the policy makers, nuclear strategists and other academic experts in particular and others in general to comprehend India’s nuclear policy in a right perspective.

METHODOLOGY

Traditional tools of research- historical, comparative and analytical - have been relied upon. India’s nuclear policy prior to May 1998 or Pokharan-II is examined in the historical context to ascertain various aspects related to India’s security vis-à-vis nuclear proliferation and evolution of growth of India’s nuclear policy. The historical method has enabled to ascertain reasons behind India's non-accession to the NPT as well as CTBT and keeping its nuclear options open. Comparative method has enabled to compare India’s pre-Pokharan-II and post-Pokharan-II nuclear policies and their relative impact on India’s security. Comparative tool has been utilized to discern linkages between nuclear weapons and security, nuclear capabilities of India’s nuclear neighbours- China and Pakistan- thereby to find out high and low of India’s
nuclear capabilities. Analytical tool has enabled to sift chaff of the grain in order to reach logical conclusions to make appropriate improvements in India's security and defence preparedness. Positive and negative aspects of India's security vis-à-vis nuclear weapons which have become discernible through the use of analytical method can be helpful in removing the bottlenecks in India's defence preparedness and thereby suggest concrete measures to remove those impediments.

Reliance has been placed on both primary as well as secondary sources. Preference has been accorded to primary sources for the authenticity of the data and official statements. Secondary data is used to supplement the viewpoints and juxtaposing diverse opinions in order to have a critical and analytical perspective. Appropriate use of tables, graphs and other related illustrations, where appropriate, has been made to enhance the analytical appraisal and logical sequence. Optimum care has been taken to present an objective and dispassionate appraisal.
Notes


7. The genesis of the policy of non-alignment can be traced back in India to at least 1939 when the Indian National Congress, at its Haripur session, passed a resolution that "India was resolved to maintain friendly and cooperative relations with all nations and avoid entanglements in military and similar alliances, which tend to divide up the world into rival groups and thus endanger world peace." Cited in Jasjit Singh, "India's Nuclear Policy: The Year After", *Strategic Analysis*, Vol. XXIII, No. 4, July 1999, p. 529.

8. An almost identical rationale had existed in the 1950s when Beijing and Moscow were military allies. The Panchsheel Agreement of 1954 was a major example of engaging China, trying to commit it to the principles and aims of the Charter of the United Nations, since Beijing, by then was not the member of the UN. However, a major reversal in Sino-Indian relations occurred in 1959 following the revolt in Tibet and border clashes from that time. And India was caught substantively unprepared three years later, when a full-fledged invasion was launched by China against India across the Himalayan frontiers.

9. For details see, Government of India, Ministry of Defence, Annual Report, of a number of years during 1990s and for 2000-01 to 2005-06.

10. For China's supplies of ballistic missiles to Pakistan, see the then Prime Minister of Pakistan Moen Qureshi's statement on 26 August 1993 in *The Nation*, 27 August 1993, and Foreign Minister Abdul Sattar's statement to the Pakistan Senate on 26 August 1993; cited in *The Nation*, 27 August 1993 when he said: "These missiles were bought keeping in mind Pakistan's security requirements", which he went on to justify in relation to missile attacks from across the borders from Afghanistan. For an earlier confirmation of Chinese supplies of ballistic missiles to Pakistan, see Chinese ambassador to the United States, Zhu Qizhen's address to the National Press Club,
Washington DC, on 27 June 1991, as cited in John Wilson and Hua Di, China’s Ballistic Missile Programme", *International Security*, Vol. 17, No. 2, Fall 1992, p. 37. The Chinese ambassador had reportedly stated: "We have sold some conventional weapons to Pakistan, including a tiny amount of short-range tactical missiles." Recent media reports have confirmed that China had supplied M-11s to Pakistan though modified somewhat to bring them technically under the MTCR regime.

11. India had reportedly put its IRBM programme on hold, reportedly under American pressure. It was in April 1999 that India finally tested a 2,500-km range missile, Agni-II.


14. The term 'Nuclear Weapon State' as defined in the Non-Proliferation Treaty (NPT) cannot be applied to India because India is not acceded to the NPT regime thus far; hence it is not recognized as such. Accordingly, India is referred to as a state with nuclear weapons (SNW) throughout this research study.


