

INDIA'S NUCLEAR DIPLOMACY AND THE NON-PROLIFERATION REGIME

CHANDREYEE CHAKRABORTY

Introduction by

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LIST OF ABBREVIATIONS

AEC	Atomic Energy Commission (India)
BARC	Bhabha Atomic Research Centre
BJP	Bharatiya Janata Party
CBM	Confidence Building Measure
CTBT	Comprehensive Test Ban Treaty
DAE	Department of Atomic Energy (India)
DRDO	Defence Research and Development Organization
ENDC	Eighteen Nation Disarmament Commission
FMCT	Fissile Material Control Treaty
G-8	Group of 8
GDP	Gross Domestic Product
HEU	High-Enriched Uranium
IAEA	International Atomic Energy Agency
MTCR	Missile Technology Control Regime
NAM	Non-Aligned Movement
NATO	North Atlantic Treaty Organization
NCA	Nuclear Command Authority
NFU	No First Use
NNWS	Non-Nuclear Weapon State
NPT	Nuclear Nonproliferation Treaty
NPTREC	NPT Review and Extension Conference
NSG	Nuclear Suppliers Group
NSS	National Security Strategy
PNE	Peaceful Nuclear Explosion
NWS	Nuclear Weapon State
PTBT	Partial Test Ban Treaty
RSS	Rashtriya Swayamsevak Sangh
SAARC	South Asian Association for Regional Cooperation
SANWFZ	South Asia Nuclear Weapon Free Zone
SNEPP	Study of Nuclear Explosions for Peaceful Purposes
UK	United Kingdom
UN	United Nations
UNGA	United Nations General Assembly

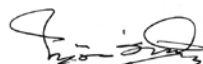
UNSC	United Nations Security Council
US	United States of America
USD	US Dollars
USSR	Union of Soviet Socialist Republics
WMD	Weapons of Mass Destruction

INTRODUCTION

I feel privileged to introduce the reader to this series of **New Delhi Papers** which contain focused research on one or two issues concerning India's national security and interests. It is also a matter of satisfaction that these objective studies have been carried out mostly by young academic and military scholars (normally below 30 years age) affiliated to this Centre on a 9-month "Non-Resident Fellowship" programme. The details of this programme are to be found at the end of this paper.

National security is a multidisciplinary subject ranging from core values, theory, security interests, challenges, options for management and other aspects covering almost all areas of national enterprise like defence, internal security, economic and technological security etc. all linked in a holistic manner. But unfortunately this is absent in our education system at the hundreds of universities and other teaching establishments. Without adequate education and understanding of national security India's multicultural diversity within the liberal democratic freedoms, therefore, tends to only progressively strengthen regionalism and parochialism with far-reaching consequences. Hence this modest attempt to fill a serious vacuum in our education system which for three centuries has remained mired in Lord Macaulay's educational model leading to narrowly conceived approach to national imperatives which, by definition, require a broader *national* approach.

I am confident you will enjoy reading this paper and you are welcome to raise comments and critique so that we can improve future efforts. The views expressed in the study are those of the author and do not necessarily reflect those of the Centre or any other institution.



Jasjit Singh

Director General

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New Delhi

1. THE NUCLEAR NON-PROLIFERATION REGIME: A SHORT HISTORICAL REVIEW

Theoretically almost all responsible nations acknowledge that total elimination of nuclear weapons is necessary for world peace. However, there has been little unanimity among nations about how this can be achieved. Nuclear weapons proliferation, whether by state or non-state actors, poses one of the greatest threats to international security today. A variety of recommendations and proposals seeking elimination of nuclear arsenals already exist, though without any major change in the nuclear order. A number of nuclear arms control agreements have been signed in recent years, but none of them have significantly effected the process of gradual decrease of nuclear militarisation. It should be noted that the problem of nuclear proliferation is global, and any effective response must also be multilateral. Nine states (China, France, India, Israel, North Korea, Pakistan, Russia, the United Kingdom, and the United States) have nuclear weapons, and more than thirty others (including Japan, Germany, and South Korea) have the technological ability to quickly acquire them. Amid rising energy costs, the accompanying push to expand nuclear energy, growing concerns about the environmental impact of fossil fuels, and the continued diffusion of scientific and technical knowledge, access to dual-use technologies seems destined to grow. And this access to dual use will obviously be a lucrative option for proliferation of nuclear weapons, as it is never known when the line between civilian use and military use will be dissolved.

Proliferation of nuclear weapons is now one of the greatest security concerns of the world. The non-proliferation regime is under severe challenge from nations like North Korea and Iran. Also it has been widely accepted by the world that South Asia has also added to the problem of proliferation. The May 1974 tests of India were received with shock by the world audience. In the heat of the moment, the tests suggested a reckless defiance of the non-proliferation norms and a major threat to peace and stability in the region particularly, and to the world at large. But still in less than a decade of the 1998 tests, India and the international nuclear system are in the middle of an entente to integrate New Delhi into the non-proliferation regime, through special changes

in the regime.

The paper begins by providing some light on the reasons behind the proliferation of nuclear weapons and why all of a sudden “proliferation” began to appear in the security agenda of all big powers. Finally it provides some historical context for the regime and ends up with the regime’s relationship with India. Readers familiar with this background information may wish to proceed to the main body of the dissertation.

A Brief History of Proliferation of Nuclear Weapons

The scientific concepts behind nuclear fission—the knowledge that atoms of certain elements can be split and this can produce huge energy— began to be developed in the first decade of the twentieth century from the work of British physicist Ernest Rutherford and others. Scientists were excited by the possibility that a limitless supply of nuclear energy might eventually be harnessed for peaceful purposes. At the same time, however, scientists recognised that nuclear power would possess a darker side: the potential to unleash unprecedented explosive power for military purposes. In the late 1930s and during the first part of World War II, high-ended research on nuclear weapons took place in several countries, including the United Kingdom, Germany, Japan, France, the Soviet Union, and the United States.

After the nightmarish experience with nuclear technology in Hiroshima and Nagasaki, plans to globally restrict access to this dangerous expertise emerged under the umbrella of the newly established United Nations. The nuclear arms race started between the United States and the Soviet Union soon after Second World War, when the latter achieved the status of the nuclear weapons state in 1949.¹ The fact that the Soviet Union had become a nuclear power figured heavily when President Truman in early 1950 decided to launch a crash programme in order to develop a more advanced type of nuclear weapon, the so-called hydrogen bomb. In 1958, the United States and the Soviet Union agreed on a temporary moratorium on nuclear testing.² It seemed possible to negotiate a treaty banning nuclear testing. Political and military developments, however, made the moratorium a short one. By 1961, two more countries had developed and successfully tested nuclear weapons. The United Kingdom achieved the nuclear weapons state status in 1952. Nuclear weapons became the symbol of the whole Cold War era and the horror picture of the total destruction. On February 13, 1960, France followed suit. The French programme received very little technological and scientific support from other countries. Four and a half

years later, on October 16, 1964, China became the fifth nuclear power after having received only reluctant assistance from the Soviet Union.

In 1998, India and Pakistan joined the nuclear club by developing and testing their own nuclear weapons. North Korea conducted a nuclear test in 2006 and again in 2009. Israel, known to possess nuclear weapons, has so far not conducted a nuclear test. Iran has also joined the race of developing nuclear weapons. Though it is a signatory to the Non-Proliferation Treaty, it is going on with its nuclear project which has become a threat to the international community.

Why Proliferation Matters?

One of the greatest dangers facing the post-cold war world is the proliferation of weapons of mass destruction (WMD). These consist of chemical, biological, and most importantly, nuclear weapons. There exists a general consensus on the dangers of nuclear proliferation. While some believe that proliferation may not be as grave a threat as many purport it to be, virtually no one would choose to allow proliferation if given the option.³ The main concern was simply a generalisation of the fear that the more countries had nuclear weapons, the higher the risk that sooner or later something would go wrong somewhere and weapons would be used. The expansion of the nuclear club would present both direct and indirect dangers to the world. The direct threat comes from the actual use of nuclear weapons. The particular ground was that this or that new possessor, whether or not explicitly identified, might import special dangers. They might be of uncertain motivation or risk-taking propensity; disposed towards securing disruptive change in the international order; of an internal character not wholly trusted to maintain secure long-term control of an armoury and its materials; involved in combustible regional confrontations; or likely, if they acquired weapons, to prompt rivals to take similar steps.

The greater the number of possessors of nuclear weapons, the greater is the chance that someone will use one either intentionally or accidentally. A greater number of nations with nuclear weapons also means there are more possibilities for a security leak and an increased likelihood that these weapons will fall into the hands of terrorist groups. Pete Domenici calls the proliferation of nuclear weapons “the most likely scenario for an actual incident.”⁴

Kenneth Waltz argues that the proliferation of nuclear weapons is not necessarily dangerous and may even help to stabilise regions of the world.⁵

However, proliferation may be dangerous even if Waltz is correct. The risk of accidents increases with more fingers on the nuclear triggers no matter how careful these nations are. There is a well-established thought that sees nuclear weapons as a stabilising force in inter-state relations. Relying on rational deterrence theory these “nuclear optimists” argue that nuclear weapons’ great destructive power makes deterrence easy and conflict unlikely. As Bernard Brodie, a pioneer of nuclear strategy wrote in 1946:

“If the aggressor state must fear retaliation [in kind, with atomic weapons] it will know that even if it is the victor it will suffer a degree of physical destruction incomparably greater than that suffered by any defeated nation of history [...] Under those circumstances no victory, even if guaranteed in advance—which it never is—would be worth the price.”⁶

Another group, that of the nuclear pessimists, retorts that the optimists make by default assumptions about human rationality and often overlook other important factors. Proliferation pessimists like Scott Sagan, and others argue that “more will be worse” because more nuclear weapons in the hands of more states increases the chance of preventive wars, crisis instability, and accidental nuclear detonation.⁷ One more thing that is important to note is that, “more may be better” or “more will be worse” such concepts regarding nuclear weapons can affect each nation in a different way. Waltz and Sagan debated over whether the spread of nuclear weapons is good or bad for international and regional systems as a whole, but never seriously considered whether nuclear proliferation may be good for some states and bad for others. If we consider the whole international community, we can see that there are nations who really need to have a nuclear deterrence, and for some it is only to maintain their supremacy in the regional front.

It has not always been easy for the international community to maintain a balanced judgment in evaluating the risks of proliferation and in agreeing the priority and the degree of urgency, of counteraction against them alongside competing policy considerations. Often due to some states whose character or behaviour is viewed internationally with such mistrust that it is regarded that any acquisition of nuclear weapons by them is a development to be determinedly opposed. The prime case for a strong worldwide anti-proliferation strategy is of a broad character, resting on long-term uncertainties, chain-reaction dangers and of course to maintain the sole primacy of big powers in the world forum.

The non-proliferation regime is valuable, even though it has not been very successful. At quite a modest price, it provides a mechanism for collective restraint in nuclear proliferation, and offers the best hope available for eventual nuclear disarmament while promoting responsible behaviour by the nuclear powers in the interim. It is an absolute weird thinking of letting nuclear weapons spread unabated or attempting to halt their spread through ad hoc unilateral or multilateral treaties. There are numerous challenges before the regime but preparations are going on for the possibility of more challenging times ahead.

A Short History of the Non-Proliferation Regime

Although a truly global non-proliferation regime was formed only with the enforcement of the NPT 1970, cooperative efforts to control the spread of nuclear weapons date back to the early years of the nuclear age when the war-time allies the US and the UK swore each other to secrecy about their joint work on the atomic bomb. The Quebec Conference Agreement of August 1943 between the British, Canadian and United States governments forbade parties to communicate any information about Tube Alloys [British code for the atomic weapon project] to third parties except by mutual consent.⁸ Another important effort in the non-proliferation field by the United States was the report On the International Control of Atomic Energy (informally known as the “Acheson-Lilienthal” Report), and was published in March 16, 1946. Its premise was that there should be an international “Atomic Development Authority” which would have worldwide monopoly over the control of “dangerous elements” of the entire spectrum of atomic energy.⁹

From its very inception the United Nations was concerned with nuclear proliferation. It feared that uncontrolled proliferation could lead to nuclear war and focused attention on the need for remedial action. The governments of the US, Britain, and Canada issued a joint call in November 1945 for the establishment of a truly multilateral nuclear control regime. The joint declaration called on the newly created United Nations to establish a commission to develop proposals to:

- Enhance exchanges of nuclear scientific information for peaceful purposes;
- Control atomic energy to the extent necessary to assure its peaceful use;
- Eliminate from national armaments atomic weapons and all others adaptable to mass destruction; and
- Establish safeguards by way of inspection and other means to ensure compliance.¹⁰

The Baruch Plan, another early initiative presented by the United States on June 14, 1946, proposed the establishment of an International Atomic Development Authority to deal with the entire gamut of nuclear energy, for both peaceful and military uses. The authority would be so constituted as to function independently of the United Nations Security Council veto, with the authority to supervise all national nuclear programmes. But all these non-proliferation efforts were unsuccessful, because of the debate between two approaches, that is should there be an “international control” over the bomb, or should the bomb be “permanently banned.” This negotiation never led to any comprehensive solution, as proposals went on being rejected and further rejected, if they did not fit either of the parties, thus leading to ultimate zero on non-proliferation.

The second era of non-proliferation regime came with several treaties, extensive multilateral and bilateral diplomatic agreements, multilateral organisations, domestic agencies, and the domestic laws of participating countries. An array of measures to prevent or discourage further proliferation were initiated. This has included the following:

- Treaties and legal agreements, global or regional—most importantly the establishment of the International Atomic Energy Agency (IAEA) in 1957, the 1968 Nuclear Non-Proliferation Treaty (NPT), but including also the various treaties establishing nuclear-weapon free zones (NWFZs);
- Multilateral arrangements such as the MTCR, the Nuclear Suppliers Group (NSG), the US-led Proliferation Security Initiative, the Hague (or International) Code of Conduct for transparency and restraint in the acquisition of ballistic missiles. The regime also consists of a number of measures aimed at the prevention of theft of nuclear materials, and the prevention of nuclear terrorism.
- Other notable treaties are the Fissile Material Control Treaty (FMCT), the Comprehensive Test Ban Treaty (CTBT) in 1990, and finally the economic and political pressures faced by the declared and the undeclared nuclear weapons nations keeps the non-proliferation saga going.

In reality none of these instruments on its own is a total bar to proliferation, and they need to be further developed, more widely and consistently applied, or more dependably policed in order to strengthen the efficacy of the array as a whole.

My first section would try to look at the invitation of the nuclear programme of India. The Indian nuclear programme can be divided roughly into four stages.

Nehru's sentiment underlay the first stage, which lasted from its inception to the mid-1960s. During this stage a large nuclear programme primarily aimed at producing energy and for peaceful purposes was planned. Through the existing infrastructure did not permit the production of nuclear weapons, the possibility of using it for defence purposes was privately acknowledged. The second stage, beginning in the mid-1960s, culminated in publicly demonstrating India's nuclear capability through the "peaceful nuclear explosion" of 1974 as part of the global PNE programme. The third stage that was the post 1974 saw India maintaining that it had the option to build nuclear weapons but that it had chosen not to actually manufacture or deploy them. Simultaneously, India was increasing its capability to build a nuclear arsenal, as well as a missile programme since 1983 to deliver them. The third stage culminated in the tests of 1998. The fourth being the India-US civil nuclear cooperation deal in 2008, which also acknowledged India's nuclear weapons status.

The next part would also be a detailed analysis of the incidents between 1998 and 2008. Moreover, what were the compulsions that led to 1998? The next phase will look into India's nuclear diplomacy in the new world. The successful conclusion of the United States-India Nuclear Cooperation Approval and Non-proliferation Enhancement Act which became a law with President George Bush's approval is a turning point in India's nuclear agenda. Since the signing of the Indo-US agreement and special dispensation granted to India by the IAEA and the NSG, India has signed Civilian Energy pacts with states as diverse as Britain, France, Russia, Canada on the one hand, and Argentina, Kazakhstan, Namibia on the other. Basically the US-India nuclear pact virtually wrote the rules of the global nuclear regime by underlining India's credentials as a responsible nuclear state that should be integrated into the global nuclear order. All of the above incidents can be jotted down as India's achievements in the field of nuclear diplomacy.

Though India is emerging as a responsible nuclear power, India's relation with the NPT is still a troubled one. NPT's objective is the prevention of the spread of nuclear weapons to countries that did not have them rather than on the protection of those countries from nuclear weapons. Now the argument is, can the NPT be reviewed in such a way so that it can include India because India has proved itself to be a responsible nuclear power, but the problem that arises is that Pakistan and Israel have to be given the same treatment as that of India, which may pose a threat to Indian security.

The third part would deal with the nuclear control regime in which Fissile

Material Cut-off Treaty (FMCT) is an important issue where India faces a challenge from Pakistan. The Pakistanis assert that a fissile materials treaty, which does not address existing stocks, will “freeze existing stock,” will “free existing asymmetric” that threaten Pakistan’s security and is therefore unacceptable to them. This is undoubtedly a manifestation of Pakistan’s concern with India. India has actually expressed support for this treaty, as it is a great step towards nuclear disarmament. But it is to be seen how things are handled because FMCT is a good card if played cautiously, which can herald a change in the global nuclear order. This part also examines India’s policies toward the global non-proliferation regime and analyses the underlying motivation of the policies adopted by India. The first part of the chapter is a detailed understanding of India’s negotiation with the Nuclear Non-Proliferation Treaty (NPT) and the second part deals with India’s unhindered policy towards the Comprehensive Test Ban Treaty (CTBT). The chapter concludes with the note that India is against the two “discriminatory” treaties and not against the idea of the non-proliferation regime.

The next part analyses how India is currently involving itself with the IAEA safeguard regime and the Nuclear Export Regime. Consequently I argue why India should be a member of these regimes and how India can be an excellent partner for the regime. The introductory part of the chapter deals with the Indo-US relationship and United States’ intention to include India in the discriminatory treaties. The discussion then focuses on the evolutionary process of India’s relationship with above-mentioned components of the regime. Their actions are not legally binding but mainly based on the references of the big powers, which make them a loose institution.

My idea is to actually bring out the new diplomacy that India has, how global politics views India’s new status after the Indo-US nuclear treaty, and lastly to bring out the changing dynamics in the nuclear diplomacy. Here I want to focus on the future problem, that nuclear conflict is only a matter of time without a global ban. India has to play a critical role in tackling these challenges. India has to play the role of a responsible player in minimising proliferation dangers by actively engaging in the non-proliferation regime.

Notes

1. The actual reason for the United States to initiate an atomic bomb was because of fear from Germany. The President of the United States, Franklin D. Roosevelt, received a letter from physicist Albert Einstein and his Hungarian colleague Leo Szilard, calling to

his attention the prospect that a bomb of unprecedented power could be made by tapping the forces of nuclear fission. The two scientists, who had fled from Europe in order to escape Nazism, feared that Hitler's Germany was already working on the problem. Should the Germans be the first to develop the envisaged "atomic bomb," Hitler would have a weapon at his disposal that would make it possible for him to destroy his enemies and rule the world. To avoid this nightmare, Einstein and Szilard urged the government of the United States to join the race for the atomic bomb. Roosevelt agreed, and for the next four and half years a vast, utterly secret effort was launched in cooperation with the United Kingdom, code-named "The Manhattan Project."

2. <http://www.nv.doe.gov/library/publications/historical/NV291/Chapter2Part1.pdf>.
3. Kenneth Waltz has at times been construed to support the proliferation of nuclear weapons, but it is my opinion that he merely sees them as a non-threat. He does not encourage the proliferation of these weapons. Indeed, he claims that the spread of nuclear weapons is so slow that that is a good state of affairs. Kenneth Waltz and Scott Sagan, *More May Be Better: The Spread of Nuclear Weapons: A Debate* (New York: W. W. Norton & Company: 1995), pp. 1-2.
4. Pete V. Domenici, "Countering Weapons of Mass Destruction." *Washington Quarterly*, vol. 18, no. 1, winter 1995, p. 142.
5. Brahma Chellaney, *International Security*, Summer 1991, v. 16:1, pp. 68-69.
6. Bernard Brodie and Frederick Sherwood Dunn, eds., *The Absolute Weapon: Atomic Power and World Order*, 2nd ed. (Freeport, N.Y.: Books for Libraries Press, 1972), pp. 74-75.
7. Scott D. Sagan, "More Will Be Worse," in Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons*; Scott D. Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton, NJ: Princeton University Press, 1993).
8. Brian Buckley, *Canada's Early Nuclear Policy* (Montreal: McGill UP, 2000), p. 28.
9. The Acheson-Lilienthal Report. Report on the International Control of Atomic Energy.
10. <http://www.learnworld.com/ZNW/LWText.Acheson-Lilienthal.html>.
11. Brian Buckley, *ibid.*, p. 46.

2. INDIA'S NUCLEAR PROGRAMME

The advent of nuclear weapons since the end of World War II has given a new meaning to the notion of threat perception. This nuclear “taboo” has matured over time; states have continued to pursue nuclear capability for its “equalising capability.” Scholars of international relations offer three general motivations behind national pursuit of nuclear capability. First, national power, second, scientific advancement and technological prowess, and the third reason put forward for nuclearisation is national prestige. In the case of India, the major thrust was obviously the security environment. The China-Pakistan nexus created an inevitable reason for India to think seriously about the nuclear option. But the most unique feature of India’s nuclear policy was that in spite of the 1974 test India remained silent till 1998. This trait of India according to George Perkovich can be attributed to the idealist and normative strain of Indian foreign policy.

India’s willingness to integrate with the institutions of non-proliferation regime is the core around which the recent activities of India’s nuclear diplomacy are centred. Theoretically almost all responsible nations acknowledge that total elimination of nuclear weapons is necessary for world peace. However, there has been little unanimity among nations about how this can be achieved. Nuclear weapons proliferation, whether by state or non-state actors, poses one of the greatest threats to international security today. A variety of recommendations and proposals seeking elimination of nuclear arsenals already exist, though without any major change in the nuclear order. A number of nuclear arms control agreements have been signed in recent years, but none of them have significantly effected the process of gradual decrease of nuclear militarisation. It should be noted that the problem of nuclear proliferation is global, and any effective response must also be multilateral. Nine states (China, France, India, Israel, North Korea, Pakistan, Russia, the United Kingdom, and the United States) have nuclear weapons, and more than thirty others (including Japan, Germany, and South Korea) have the technological ability to quickly acquire them. Amid rising energy costs, the accompanying push to expand nuclear energy, growing concerns about the environmental impact of fossil fuels, and the continued diffusion of scientific and technical knowledge, access to dual-use

technologies seems destined to grow. And this access to dual use will obviously be a lucrative option for proliferation of nuclear weapons, as it is never known when the line between civilian use and military use will be dissolved.

Proliferation of nuclear weapons is now one of the greatest security concerns of the world. The non-proliferation regime is under severe challenge from nations like North Korea and Iran. Also it has been widely accepted by the world that South Asia has also added to the problem of proliferation. The May 1974 tests of India were received with shock by the world audience. In the heat of the moment, the tests suggested a reckless defiance of the non-proliferation norms and a major threat to peace and stability in the region particularly, and to the world at large. But still in less than a decade of the 1998 tests, India and the international nuclear system are in the middle of an entente to integrate New Delhi into the non-proliferation regime, through special changes in the regime.

India's Nuclear Programme

There has been much debate over India's motivations for nuclearisation. But the most prominent factors were the concern about national security. A number of factors have contributed to this complex security scenario. For example, India's regional security environment has been destabilised by the collusive nuclear weapons-cum-missile development programme between China and Pakistan, the strident march of Islamist fundamentalism, the diabolical nexus between narcotics trafficking and terrorism, the proliferation of Small Arms and a host of other vitiating factors. Afghanistan's endless civil war and its tense relations with Iran and the Central Asian Republics (CARs), Pakistan's gradual slide towards becoming a "failed state," Sri Lanka's continued involvement in the vicious Tamilian insurgency, Bangladesh's struggle for economic upliftment to subsistence levels, the Tibetans' struggle against state repression and the Myanmar peoples' nascent movement for democracy, are all symptomatic of an unstable and uncertain security environment in the Southern Asian region.

The first broad concern of India's security environment that led to the true thought of nuclear programme was the testing of a nuclear device by China. After a period of nuclear slow-down, the Indian nuclear programme again accelerated in the early 1980s after rumours spread that Pakistan was putting forth strong efforts in fostering its nuclear capabilities. As they followed Pakistan's test firing of the medium-range Ghauri ballistic missile which is capable of targeting main cities in India, the Indian nuclear tests in 1998 were again interpreted by many as a reaction to prior proliferation dynamics within Pakistan.

Chinese assistance to Pakistan's nuclear programme was another matter of concern which attracted widespread attention by India's bomb advocates, drawing an alarming scenario of an axis of two nuclear capable adversaries threatening India from the north. In fact, Chinese technical assistance to Pakistan's missile programme appeared to be substantial. There were also some unproven allegations raised about Chinese transfer of sensitive nuclear know-how. While China's strategic interests behind its nuclear assistance to Pakistan are quite evident, its impact on India's nuclear discourse was quite prominent.

Evolution of India's Nuclear Programme

One of the most important features of India's nuclear programme is its relative autonomy and the quest for self-reliance. India's nuclear policy is the product of deep and long-range thinking of eminent people. It was felt that with a vast source of energy, science and technology of the modern world, India would be able to harvest itself in a better manner. The men who were actually responsible for Indian's nuclear programme were Pandit Jawaharlal Nehru and Dr. Homi J. Bhabha. They aspired to employ the new source of power called atom along with conventional sources. Bhabha prophesied "when nuclear energy has been successfully applied for power, production in, say, a couple of decades from now ... India will not have to look abroad for its experts but will find them ready at hand."¹

Like all other countries whose nuclear programmes began after the Second World War, India's nuclear research began in 1944. The policy took a concrete shape when the Atomic bill was presented in the Constituent Assembly by India's first Prime Minister, the Late Jawaharlal Nehru. The basic framework of Indian nuclear policy was laid down by him. The first step was taken by Dr. Homi Bhabha in March 1944 when he submitted a proposal to the Sir Dorab Tata Trust to create a nuclear research institute. This led to the creation of the Tata Institute of Fundamental Research (TIFR) on December 19, 1945 with Bhabha as its first Director. The new government of India passed the Atomic Energy Act, on April 15, 1948, leading to the establishment of the Indian Atomic Energy Commission (IAEC) not quite one year after independence. Nehru was advised by his old friend P. M. S. Blackett from Cambridge, who recommended a giant network of laboratories under the CSIR. Even Blackett's three themes about nuclear issue, the utility of nuclear weapons, disarmament, and nuclear energy as an important source of electricity, helped to further evolve Nehru's ideas of nuclear weapons.

The 1950s was the era for India, when it was trying to build up its first

nuclear reactor. During the 1950s, the US attempted to curtail any nuclear expansion to countries that did not have the necessary material. This was further exemplified by the UN-mandated “Atoms for Peace” programme, a broad-based competence in the nuclear field. On the other hand the three nuclear weapons states were conducting repeated nuclear tests. It was India who proposed an end to these nuclear tests in 1954.² The dangers of radioactive fallout were highlighted when a nuclear test of 15 megaton hydrogen bomb was conducted by the United States on March 1, 1954 at the Namu Island. The test was part of “Operation Castle.” This test led to a high amount of radioactive material being surfaced in the environment, and led the world leaders to think of ending the nuclear menace. Prime Minister Nehru told the Parliament on April 2, 1954: “Nuclear tests are a crime against humanity and a crime against survival of the human race. No country, pleading the interests of its security, has the right to perpetuate this nuclear holocaust.”³ India actually called for negotiations for prohibition and elimination of all nuclear weapons, and also a strong agreement on stopping any kind of nuclear testing. However Nehru was never against using nuclear energy for any other options. India even made a formal proposal in the UN General Assembly in December 1954 for ending all nuclear tests. India’s call to stop nuclear testing was not heeded for about a decade. It was only in 1963 that the “Partial Test Ban Treaty” was signed, which banned all nuclear testing except in the underground.

While debates continued to grow over nuclear materials transfers, India was very quietly beginning to shift from a uranium-based production capability to a plutonium-based one. This was mainly in response to a lack of natural uranium resources in India, coupled with the the fact that plutonium produced in the first stage could be used as fuel for the second stage. In 1955 construction began on India’s first reactor, the 1 MW Apsara research reactor, with British assistance. And in September 1955, after more than a year of negotiation, Canada agreed to supply India with a powerful research reactor—the 40 MW Canada-India Reactor (CIR). Under the Eisenhower Administration’s “Atoms for Peace” programme the US agreed to supply 21 tons of heavy water for this reactor in February 1956, and the reactor was dubbed the Canada-India Reactor, US or CIRUS. The reactor was a design ideal for producing weapons-grade plutonium, and was also extraordinarily large for research purposes, being capable of manufacturing enough plutonium for one to two bombs a year.⁴ This project (CIRUS) proved to be a watershed event in nuclear proliferation.

According to J. N. Dixit a few core fundamental elements shaped India’s

nuclear policy since the 1950s. These are: (a) India remained firmly opposed to nuclear weaponisation and the development of weapons of mass destruction; (b) India desired the international community to accept a time-bound programme for complete and general disarmament, including nuclear disarmament, without any discriminatory provisions; (c) India was firm in its desire to acquire and develop nuclear technology for peaceful purposes, the ultimate objective being self-reliance in this important sphere of productive scientific and technological activity, which was of vital interest for India's development and economic well-being; and (d) India was willing to submit itself to controls, safeguards and inspections if they were made equally applicable to all countries, regardless of their influence and powers.⁵ These above-mentioned points are the basic steps of India's nuclear policy from the time of Nehru to the present day. Actually, India had always stood up for the total elimination of nuclear weapons and that it would apply for all states of the world equally.

1960s: To Make the Bomb and Sino-Indian Conflict

In the late 1950s, India started pursuing its "peaceful nuclear programme." And from the start of the 1960s many new developments triggered changes in India's security environment. Prime Minister Nehru, although advocating disarmament, was apprehensive about China's nuclear weapons programme. Upon his death, India began to develop the programme to counter the Chinese programme and its subsequent testing in 1964.⁶ Also India's defeat in the 1962 border conflict with China proved its military unpreparedness, and exacerbated tensions between the two countries. The result of the war in a real sense altered India's view of nuclear weapons. This was coupled with China's testing of a nuclear weapon in 1964, making Indian politicians question the wisdom of their nuclear policies. The Nuclear debate was again renewed in 1964-65, which mostly centred around the threat from China. The Chinese nuclear explosion did set off a debate within India on the need to make the bomb. In 1964 the issue was discussed in Parliament as part of the debate on foreign affairs.

Of the many possible conclusions to be drawn from this encounter with China, the most significant was considered to be the ill-preparedness and naïveté of the Indian military which reflected the conflict between defence spending and socio-economic development. India was faced with a choice on how to allocate its limited resources, for the good of the people or for nuclear development. "If it had chosen instead to become militarily strong, India would have undermined and bankrupted—literally and morally—the essential democratic character that

enabled it to win peace through non-violence.”⁷⁷ In addition to the conflict with China, India engaged in a number of conflicts with Pakistan over border issues. This further complicated India's security environment. Following its victory in 1965, Indian politicians again renewed their demand for development of a nuclear arsenal. “Some of the erstwhile bomb advocates simply seized on whatever opportunity they could to stoke the debate, but for others, the war had changed the equation.”⁷⁸

1970s: The First Test

Beginning in 1970, India began a more overt programme to develop nuclear weapons under the guidance of Vikram Sarabhai. The security environment of South Asia became more challenging, because of Pakistan's proximity to China. Also US President Nixon's visit to China and the US tilt towards Pakistan in the 1971 war with India (the US dispatched an aircraft carrier, USS Enterprise, to the Bay of Bengal) also upset Indian calculations. Another turning event was in 1970 when, “China for the first time launched a long-range rocket carrying a satellite into orbit. This raised the spectre of a significant Chinese ballistic missile capability to launch nuclear warheads at distant targets.”⁷⁹ As a result of this Chinese accomplishment, it really became necessary to rethink India's nuclear logics. There were strong demands within India to acquire nuclear weapons, but there was also considerable hesitation arising from the deep revulsion against nuclear weapons and the notion of deterrence.

The post-Shimla phase saw India exploding a nuclear device. On May 18, 1974 India carried out its first underground nuclear explosion. This test was described by the Indian Government as a “peaceful nuclear explosion” (PNE). Technically, India then became the world's sixth nuclear power following that then Prime Minister Indira Gandhi declared that the Atomic Energy Commission had carried out this explosion, as part of the research and development the Commission had been “carrying on in pursuance of our national objective of harnessing atomic energy for peaceful purposes.”¹⁰ Thus the explosion at Pokhran formed part of a natural progression of a technological quest, a quest undertaken in the name of the people towards a national goal. She further emphasised “that the new nuclear know-how and technology would contribute to India's development, even if the economically advanced nations would suggest otherwise.”¹¹

The reason behind this test was not really clearly defined. It was performed to create a strong security regime for India against China and Pakistan. At this

stage China had not signed the NPT. It was repeatedly conducting atmospheric nuclear tests, which was banned under the Partial Test Ban Treaty. As J. N. Dixit recalls: “Mrs. Gandhi faced the challenge of expanded nuclear weapons deployment around India and the progressive nuclear weaponisation of China and Pakistan ... Both the United States and Soviet Union had forces armed with nuclear weapons deployed in the Indian Ocean and the Asia Pacific region, from Hawaii to Diego Garcia. The Chinese had moved on from their conventional weapons capacities to thermonuclear weapons capacities with matching acquisition of delivery systems. Equally significantly, Pakistan had commenced its clandestine nuclear weaponisation programme immediately after its military defeat by India in 1971.”¹²

The 1974 test can be seen as a delayed response of China's nuclear test in 1964. Though this nuclear experiment of May 1974 made India a nuclear weapons capable state, a number of other problems cropped up. Instead of being a national interest booster this test further complicated the global nuclear scenario. Pakistan got an alibi to intensify its nuclear weapons programme. A small amount of journalistic and non-proliferation literature suggests that to match India's nuclear capability, Pakistan government began a top priority secret nuclear programme. The first Pokhran Test was also a definite reason behind Pakistan's effort to develop a uranium enrichment centrifuge facility at Kahuta.¹³

India also had to bear the brunt of the punitive policies of Nuclear Weapons States. The Nuclear test by India was bitterly criticised by the western countries. The United States stopped their aid giving programme. The US Secretary of State, Henry Kissinger, passing through Delhi after the 1974 test, asked India to delay further testing until after the Non-Proliferation Treaty Review Conference scheduled for 1975. The Canadian government, like the US, was very surprised at the Indian test of May 1974. The plutonium used in the nuclear device was produced by the Canadian aided nuclear reactor—CIRUS. Earlier, Indian officials had repeatedly assured Canada that the government did not intend to explode a nuclear device. Prime Minister Trudeau had warned Mrs. Gandhi that in the event of India conducting any nuclear test, Canada would cut off all nuclear cooperation as well as all economic aid.¹⁴ If the two responses are compared, the United States had a mild response compared to Canada. The cold war between the Soviet Union and United States was a major reason behind the United States' mild response. Henry Kissinger perhaps at that moment did not want to alienate India, as he feared this would end up leading India to take up

sides with the Soviet Union. According to Robert J. Einhorn, deputy assistant secretary of state for non-proliferation in the Bill Clinton Administration, “In 1974, if Indira Gandhi had gone ahead with a weapons programme, it would have been a different non-proliferation order because NPT came into being in 1970 and in 1974 many states were still undecided about it. By not weaponising then, India, in effect, supported the NPT and ensured its success.”¹⁵

1980s: Developing the Missile Programme

Mrs. Indira Gandhi returned to power in 1980 with a thumping majority. By this time the soviet invasion of Afghanistan had made Pakistan a major player in South Asian politics. Pakistan had become a major ally of the United States. Having become the frontline state of the USA and by carrying out its proxy war in Afghanistan, provided Pakistan with a solid base of continuing with its nuclear weapons programme. General Arif, in his book entitled, “Working with Zia” said that in 1981, US Secretary of State Haig had assured Pakistan that the US would not interfere with Pakistan’s nuclear programme. By 1983-84 the United States had full knowledge of Sino-Pakistan nuclear cooperation.¹⁶ But US smartly chose to ignore this effort of Pakistan even when it had definite proof that Pakistan was rigorously pursuing a nuclear weapons programme. The US even renewed its assistance to Pakistan, which it had previously cut off in September 1977.¹⁷ On the other hand India had to stop planning about its 1982-83 nuclear tests, which it had previously planned because the US threatened to cut off easy credit. The US steadily sided with the Pakistan Government because of their own needs. This made India think seriously about their nuclear option, to ensure its security under the situation of growing Pakistani nuclear threat, and Chinese as well as American assistance to it.

On October 31, 1984, Mrs. Gandhi was shot dead by her own bodyguards, paving the way for her son Mr. Rajiv Gandhi to be sworn in as India’s Prime Minister on the very day. Rajiv Gandhi largely determined India’s nuclear policy, with basic wherewithal already present in the country. He, like his mother, was uneasy with the nuclear option and sought to propagate universal disarmament and presented a plan toward this end at the United Nations in 1988. But his effort was not fruitful. Our leaders at that time instead of acting with political skill, chose to follow a middle path. Since India was keen to settle the border problems with China, and normalise relations, India took an unrealistic stand.

In the case of Pakistan, India chose to convince the United States to exert pressure on Pakistan to prevent it from pursuing its nuclear goals. India’s

approach towards its neighbour can be rightly stated as an unrealistic approach. India though being a nuclear capable state from 1974 had relied on United States' arbitration between herself and Pakistan. Pakistan for its sheer survival had to do what it was doing, as Pakistan was always under an unreal fear of Indian domination.

India's security implications were a major reason for India to speed up its missile programme in the 1980s. An Integrated Guided Missile Programme (IGMP) was formulated in 1983 by the Defence Research and Development Organisation, under the leadership of Dr. V. S. Arunachalam and Dr. A. P. J. Abdul Kalam. This shift from the space programme developed in the 1960s and 1970s "resulted from accretion of technological capability, long-term need for advanced indigenous tactical and strategic weapon platforms, and a desire to acquire weapons whose prestige and military role had been determined by the major powers whose stature India sought to share."¹⁸ In 1983, the IGMP began development of five missile systems. The programme included an anti-tank missile (Nag), two surface-to-air missiles (Akash and Trishul), one medium range surface-to-surface missile (Prithvi), and an intermediate range missile (Agni).¹⁹ With these developments, it was obvious that India was aiming to develop its nuclear options further.

In sum, the making of India's bomb was not an immediate and proactive response to the perception of a major security threat, but rather a case of reluctant nuclearisation arising from concerns about the deteriorating security environment. In the Indian perception, there were two secondary contributors to the threat. China, pursuing a strategy of containing India by using Pakistan as a surrogate, had supplied technology, nuclear materials and warhead designs for the Pakistani bomb.

1990s: South Asia on the Brink of Nuclear War

The nuclear blasts beneath the deserts of Rajasthan (India) and deep Inside the Chagai Hills (Pakistan) brought South Asia to the main focus of international attention. Stormy and sometimes heated discussion in international political circles, academia and in public opinion created the impression that South Asia had suddenly become the hot spot of international tension and India and Pakistan would be at the brink of a nuclear war. India detonated five nuclear devices in Pokhran on May 11 and 13, thus making India a nuclear weapons capable state. Before the dust in Pokhran could even settle, Pakistan detonated six nuclear devices on May 28 and 30 in Chagai. These developments in both the countries

changed the security environment in South Asia for ever.

In India the momentum behind the testing had built steadily since 1995. The newly elected government boldly pushed India across the threshold of declared nuclear weapons status, carrying the country into what can be considered the third phase of its nuclear history and perhaps ending its record of self-restraint. “In conducting the May tests, the Indian government stood by the premise that it was the right of every nation to conduct these tests and that they should not be limited by those nations that already possessed and tested nuclear weapons.”²⁰

In the wake of Pokhran II, India was determined to convince the international community that it would not become a destabilising nuclear force in the international system. Engaging the United States was the centrepiece of India post-Pokhran diplomacy. Mr. Strobe Talbott, the US Deputy Secretary of State, carried out eight rounds of talks with Mr. Jaswant Singh as Mr. Vajpayee’s representative and later India’s Minister of External Affairs during one year after Pokhran II to persuade India to sign the NPT and CTBT and to roll back its nuclear programme. Mr. Talbott wrote in early 1999 that India’s weaponisation had adversely affected the US policy towards South Asia. He said: “The relationship between the United States and India had been in a rut throughout much of the cold war, when the United States was the leader of the West and India, a leader of the non-aligned movement ... With those divisive categories now largely in the past, President Clinton saw India and the United States—fellow democracies with highly developed entrepreneurial economies—as natural partners.”²¹

Though India was subjected to a number of sanctions by the West, India was in no mood of rolling back what it already had, she was prepared to deal with the world with a realistic mindset. This change in the Indian nuclear policy after Pokhran II rested in the shift from the past emphasis on idealism as the main base of foreign policy to realism as the new basis.

2000: India on a New Path of Nuclear Diplomacy

October 10, 2008 was a historic day in Indo-US relations when the US Secretary of State Condoleezza Rice and her Indian counterpart, Pranab Mukherjee, signed the landmark agreement of cooperation between the Government of India and the Government of United States concerning peaceful uses of nuclear energy. This was the new ray of hope that ushered in the decade of 2000. This deal marked the singular most significant departure from long-held positions. Till now, US viewed nuclear weapons capable India as a threat to the non-proliferation

regime. India was also not allowed to participate in nuclear commerce unless it accepted full scope safeguards on its nuclear facilities. However, the scenario changed in 2005, as President Bush offered the promise of a constructive nuclear engagement with India. This was obviously an acknowledgment of United States to India's rising economic power with substantial energy requirements, and as a "responsible state with advanced nuclear technology." The Indian PM confirmed this in his statement before the Parliament on Civil Nuclear Energy Cooperation with the US: "The existence of our strategic programme is being acknowledged even while we are being invited to become a full partner in international civil nuclear energy cooperation."²²

This deal was an attempt by the United States to incorporate India in the expanded nuclear non-proliferation regime. The deal was a mutual give-and-take one and not like the previous treaties on nuclear disarmament. With this deal, India agreed to separate its civil and military nuclear facilities and place all its reactors under the IAEA safeguards. In exchange the United States agreed to work towards full civil nuclear cooperation with India.

Following are the key aspects of the Indo-US civil nuclear deal:

- The agreement not to hinder or interfere with India's nuclear programme for military purposes. US will help India negotiate with the IAEA for an India-specific fuel supply agreement. Washington will support New Delhi develop strategic reserves of nuclear fuel to guard against future disruption of supply.
- In case of disruption, US and India will jointly convene a group of friendly supplier countries to include nations like Russia, France and the UK to pursue such measures to restore fuel supply.
- Both the countries agree to facilitate nuclear trade between themselves in the interest of respective industries and consumers.
- India and the US agree to transfer nuclear material, non-nuclear material, equipment and components. Any special fissionable material transferred under the agreement shall be low enriched uranium. Low enriched uranium can be transferred for use as fuel in reactor experiments and in reactors for conversion or fabrication.
- The ambit of the deal includes research, development, design, construction, operation, maintenance and use of nuclear reactors, reactor experiments and decommissioning.
- India can develop strategic reserve of nuclear fuel to guard against any disruption of supply over the lifetime of its reactors.

- Agreement provides for consultations on the circumstances, including changed security environment, before termination of the nuclear cooperation.
- Provision for one-year notice period before termination of the agreement.
- The US to engage Nuclear Suppliers Group to help India obtain full access to the international fuel market, including reliable, uninterrupted and continual access to fuel supplies from firms in several nations.
- The US will have the right to seek return of nuclear fuel and technology. In case of return, Washington will compensate New Delhi promptly for the “fair market value thereof” and the costs incurred as a consequence of such removal.
- Both the countries to set up a Joint Committee for implementation of the civil nuclear agreement and development of further cooperation in this field.
- The agreement grants prior consent to reprocess spent fuel.
- Sensitive nuclear technology, nuclear facilities and major critical components can be transferred after amendment to the agreement.
- India will establish a new national facility dedicated to reprocessing safeguarded nuclear material under IAEA safeguards.
- India commits to signing an Additional Protocol—which allows more intrusive IAEA inspections—of its civilian facilities.
- India agrees to continue its moratorium on nuclear weapons testing.
- India commits to strengthening the security of its nuclear arsenals.
- India works toward negotiating an FMCT with the United States banning the production of fissile material for weapons purposes. India agrees to prevent the spread of enrichment and reprocessing technologies to states that don't possess them and to support international non-proliferation efforts.
- US companies will be allowed to build nuclear reactors in India and provide nuclear fuel for its civilian energy programme. (An approval by the Nuclear Suppliers Group lifting the ban on India has also cleared the way for other countries to make nuclear fuel and technology sales to India.)
- Nuclear material and equipment transferred to India by the US would be subject to safeguards in perpetuity.

But the deal came under severe criticism from some of the political parties of India. It was felt that this deal could jeopardise freedom in nuclear development, as the US would always keep an eye on any upcoming development in India in the nuclear field. The main doubts arose from the following points: India

has not been given assurances that it will receive uninterrupted fuel supplies in perpetuity; the United States is retaining the right to carry out its own “intrusive” end-use verifications; India is being expected to adhere to multilateral protocols, including the Proliferation Security Initiative, the Missile Technology Control Regime, and the Wassenaar Arrangement, which it had declined to accept in the past.

The deal was also seen as a great blow to the non-proliferation regime. But a deep look into India’s personal non-proliferation regime confirms that “India has been a responsible member of the international nuclear non-proliferation regime and will continue to take initiatives and work with like-minded countries to bring about a stable, genuine and lasting non-proliferation, thus leading to a nuclear-weapon-free-world.”²³

By popular perception it seems that India has herself broken the rule that it had once created. By declaring itself a nuclear weapons state, the world forum declared India guilty for disavowing the promise of non-proliferation and disarmament. But even after the test, India has continued to lay emphasis on nuclear disarmament. It has never wavered from insisting that the non-proliferation regime should be universal and non-discriminatory in nature. But with the current nuclear arsenal, that has in its reserve more than 26,000 nuclear warheads held by nine countries, disarmament of nuclear weapons is really a scary prospect. In contrast India has clearly the most pacifist record of any major country including the other six nuclear powers. On its part India has always worked for peace and disarmament.

Though India rejected the NPT, India’s attitude toward non-proliferation is favourable. Minister for External Affairs Pranab Mukherjee made this plain in February 2008: “We do not wish to see the emergence of additional nuclear weapon states, for it will only further endanger international security.”²⁴ Mukherjee went on to add that, “our goal continues to be a world free of nuclear weapons.” Such a world would not only eliminate the nuclear threat from states, it would also prevent non-state actors from obtaining nuclear weapons. The chief problem, as mentioned elsewhere, will be to ensure compliance.

Notes

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3. INDIA'S NUCLEAR DIPLOMACY IN THE REGIONAL FRONT

The world and we are alarmed and obsessed with the likely devastation that a nuclear bomb can cause. Despite concerned efforts, the international community has been unable to halt the spread of nuclear weapons. The resulting potential for future nuclear crises is one of the world's most important security concerns. How will nuclear weapons affect the behaviour of newly formed nuclear states? Will they lead to a new international nuclear crisis? The nuclearisation of South Asia offers an excellent opportunity to answer these questions. In addition lessons from South Asia will also help to anticipate the behaviour of other newly formed nuclear states.

Nuclear proliferation's impact on the South Asian security environment has been the subject of numerous scholarly works. These works fall into two groups—optimistic group and pessimistic group.¹ The first group argues that nuclear weapons will have a stabilising effect on the security environment of an otherwise unstable South Asia. By threatening to make any Indo-Pakistani war catastrophically costly, optimists argue that nuclear weapons will act as a power deterrent in this case. Indian and Pakistani statesmen will seek to avoid any proactive policies that can assure a nuclear confrontation between these two states.

Proliferation pessimists, by contrast, argue that nuclear weapons have further destabilised South Asia's security environment, because conventional warfare is now no longer important and in this case a country having conventional strength is not always sure to win a war. The group argues that in this case, it is not always sure that the newly formed nuclear weapons state will behave the way the United States and the USSR behaved during the cold war period. In South Asia, Pakistan's dissatisfaction with the status quo in Kashmir and its conventional inferiority to India could lead it to use nuclear weapons as a shield, challenging the territorial division of Kashmir without fear of all-out Indian retaliation. So territorial preferences and relative military capabilities can combine with nuclear weapons to encourage destabilising behaviour by nuclear states.

India and Pakistan remained entangled in one of the world's most intractable disputes. While the characterisation of South Asia as one of the most "dangerous places of the world" is an exaggerated phrase, the Indo-Pakistani dispute can no doubt be considered as a major issue in world politics. There seems no ready solution to this dispute, and nuclear weapons have made this part of the world a lucrative place for any fatal war or accident.

Nuclear India—A Unique Status

The history and formation of the new state of India was fraught with religious, cultural, linguistic strife and divisions. There was mass exchange of population between India and Pakistan. The first decade post independence was a decade of turmoil and huge disturbances. Pakistan and China both posed a formidable threat to India. Pakistan had already occupied a part of Kashmir, and China with its overt attack in 1962 made India think about its security environment. Indian nuclear research programme began in 1944, and an Indian Atomic Commission was created in 1948. From 1954, steady funding started flowing into nuclear research and development under the aegis of the Department of Atomic Energy. By the early 1950s, Homi J. Bhabha led a consensus among a core group in New Delhi on the right to develop nuclear energy. India's defeat in the 1962 war and China's subsequent nuclear test of 1964 intensified India's urge over the nuclear option. Choosing to keep its options open, India refused to accede to the Nuclear Non-Proliferation treaty in 1970. Prime Minister Indira Gandhi, anxious to augment India's enhanced regional position in the wake of the Bangladesh war, subsequently authorised India's first nuclear test, which took the form of a fifteen-kiloton "peaceful nuclear explosion" on May 18, 1974.²

When India surprised the world with its weapons tests of May 11, 1998 it was already known to have a nuclear capability. It first tested a nuclear device in 1974 and developed a military capability in the 1980s and 1990s. The decision to test weapons, however, broke a major international arms-control threshold and created a global backlash. Over 150 countries condemned the tests; the United Nations Security Council did likewise and issued a statement calling for restraint by both India and Pakistan; and many other international organisations, including the G8, the Organisation of American States, ASEAN, the EU and the Organisation of the Islamic Conference, voiced their opposition to India's actions. The United States imposed sanctions on India under the Nuclear Proliferation Prevention Act of 1994 (the so-called Glenn Amendment) and halted all non-humanitarian aid, military contracts and government credits to

the country. It also opposed all lending by international financial institutions, such as the World Bank, to India. Other countries imposed sanctions as well, including Japan and the EU member states.

Pakistan's Nuclear Bomb

Pakistan's nuclear research programme began in 1957 with the establishment of Pakistan's Atomic Energy Commission. Pakistan's nuclear efforts remained peacefully oriented through the mid-1960s with the country's leaders convinced that its conventional capabilities were sufficient to handle the Indian threat. This attitude changed with the crushing defeats that Pakistan received in the wars of 1965 and 1971.³

Pakistan's nuclear weapons programme was established in 1972 by Zulfikar Ali Bhutto, who founded the programme while he was Minister for Fuel, Power and Natural Resources, and later became President and Prime Minister. Shortly after the loss of East Pakistan in the 1971 war with India, Bhutto initiated the programme with a meeting of physicists and engineers at Multan in January 1972.

India's 1974 testing of a nuclear "device" gave Pakistan's nuclear programme new momentum. Through the late 1970s, Pakistan's programme acquired sensitive uranium enrichment technology and expertise. The 1975 arrival of Dr. Abdul Qadeer Khan considerably advanced these efforts. Dr. Khan is a German-trained metallurgist who brought with him knowledge of gas centrifuge technologies that he had acquired through his position at the classified URENCO uranium enrichment plant in the Netherlands. Dr. Khan also reportedly brought with him stolen uranium enrichment technologies from Europe. He was put in charge of building, equipping and operating Pakistan's Kahuta facility, which was established in 1976. Under Khan's direction, Pakistan employed an extensive clandestine network in order to obtain the necessary materials and technology for its developing uranium enrichment capabilities.

In 1985, Pakistan crossed the threshold of weapons-grade uranium production, and by 1986 it is thought to have produced enough fissile material for a nuclear weapon. Pakistan continued advancing its uranium enrichment programme, and according to Pakistani sources, the nation acquired the ability to carry out a nuclear explosion in 1987. Ultimately on May 28 and 30, 1998 Pakistan followed India by carrying out their nuclear explosions in the Chagai Hills.

Nuclear Crisis or Near Nuclear Crisis?

Relations between India and Pakistan have been fraught with conflict since their emergence in 1947. The causes of this conflictual relationship have been discussed by various authors. Since 1947 India and Pakistan have fought four wars, in 1947-48, 1965, 1971 and 1999. Apart from these engagements, much strife and tension have characterised the Indo-Pakistani relationship. To deal with some of the nuclear crises that South Asia faced, I will just give an overview of the events which could have escalated into a full-fledged nuclear, but things did not mature to such levels.

Brasstacks Crisis, 1986-87

Towards the closing months of 1986, a crisis associated with the so-called military exercise emerged that had a potential for escalation into a full-fledged war. This military exercise was the largest conducted by India that included 10 divisions on the Indian side, including two strike units. The exercise location was Northern Rajasthan which was perceived in Pakistan as the most likely launch area for an attack in Pakistan. This military exercise was code-named *Brasstacks*. Due to failure of communication a fear was injected in the mind of Pakistan that India was preparing for a war. The scale of military mobilisation by India during *Brasstacks* was unprecedented in peacetime. Indian troops carried live ammunition, worsening the fear in Pakistan that India was likely to attack Pakistan along its southern border. At the time, Pakistani experts thought that India might be preparing to relieve pressure in its East Punjab province (from a Sikh separatist insurgency that had become unmanageable) by attacking Pakistan. Indian scholars believed at that time that the exercise was intended to stop Pakistan from allegedly interfering in the Sikh insurgency in East Punjab by threatening to retaliate against Pakistan's domestic "trouble spot" in Sindh. More recent disclosures suggest, however, that *Brasstacks* was staged by the Indian military high command as a deliberate policy of provoking war with Pakistan, so that India would have a pretext to attack and undermine Pakistan's self-confidence and perhaps its territorial integrity. This threat was blocked by Pakistan's counter-deployment of its armed forces and issuance of veiled nuclear threats.

To cope with the dilemma of the war, the Zia regime relied on diplomacy, conventional force posture and nuclear weapons capability. In order to neutralise the threat to Sindh in the south posed by India's *Brasstacks* exercise, Pakistan counter-mobilised its own attack formations in the northern sector opposite

Punjab while maintaining a defensive posture in the south. Pakistan's main objective, however, was to avoid a war with India at the time when it was fully embroiled in the Afghan insurgency. To defuse the Brasstacks crisis, Pakistan relied upon its nuclear weapons capability—this being the first time in the history of the subcontinent that nuclear deterrence was invoked. The channels Pakistan reportedly employed in signalling an incipient deterrent capability, however, were unconventional and indirect.

Now a small question arises, was Brasstacks a nuclear crisis? Now at that time neither India nor Pakistan had nuclear weapons. Or to say it in a more correct way, neither country had a weaponised capability when Brasstacks erupted. So it may be said that “the nuclear question was not a real issue during the Brasstacks exercise, although the outcome of Brasstacks may have influenced subsequent nuclear decisions in South Asia.”⁴ Other scholars have also analysed this situation and have come to a similar conclusion that Brasstacks crisis involved no nuclear threats. Hagerty and Ganguly argue that Brasstacks was of non-nuclear nature.⁵

However there are pieces of evidence that show that the nuclear element was prominently present in the Brasstacks crisis. Dr. Khan reportedly stated to Nayyar regarding Pakistan's nuclear weapons capability: “America knows it. What the CIA has been saying about our possessing the bomb is correct and so is the speculation of some foreign newspapers.” Khan emphasised: “Nobody can undo Pakistan or take us for granted. We are here to stay and let me be clear that we shall use the bomb if our existence is threatened.” Khan's statement was followed by an interview of General Zia personally, by the weekly, *Time Magazine*, in which he confirmed Pakistan's acquisition of a nuclear weapons capability.

Another significant evidence was a statement in the Kargil Review Committee Report, in a chapter analysing the “nuclear backdrop” to the war. S. K. Singh, India's ambassador to Pakistan, recalled a conversation in January 1987 in which Zain Noorani, Pakistan's minister of state for foreign affairs, warned him that Pakistan was “capable of inflicting unacceptable damage” not just on northern India but also beyond.

The second piece of evidence is more tenuous. Raj Chengappa, a well-regarded Indian journalist, has claimed that at the height of the Brasstacks crisis, Pakistan “signalled that its nuclear weapons capability was ready and warned India against launching a massive conventional attack.” According to Chengappa, Rajiv Gandhi received an intelligence briefing from joint

intelligence committee chief R. K. Khandelwal that “Pakistan was modifying (its) F-16 fighters to possibly carry nuclear bombs.”⁶

So by this evidence which supports both Brasstacks as a nuclear crisis by one group and the other group opposing it, a firm conclusion cannot be reached on the nature of this crisis.

The Spring Crisis of 1990

An upsurge of militant activity sponsored by Pakistan in Kashmir during the latter half of 1989, coupled with Pakistan's retaining its troops in their exercise locations after its major *Zarb-e-Momin* exercise in the winter of that year, created the 1990 crisis. India reinforced its troops in Kashmir and Punjab by three and one division, respectively, as part of its “precautionary movements.” From Pakistan's perspective, these troop movements were alarming for the likely reason that “the quiet manner in which these movements were effected might have conveyed the impression to Pakistan that far larger forces had, in fact, been deployed, which would permit India to launch an offensive.”⁷ Pakistan also considered it ominous that India's armoured units conducting their annual training exercises in the Mahajan ranges in Rajasthan had not returned to their cantonments. Both air forces were placed on high alert, which escalated existing tensions even further. Again, this crisis seemed to be evolving inexorably towards conflict.

The United States played a proactive role in defusing this crisis. First, an active preventive diplomacy was practised by the US Ambassadors to New Delhi (William Clark) and Islamabad (Robert Oakley). The Indian government had, in fact, invited the American Ambassador to send his representatives to tour the cantonments and satisfy themselves that no military preparations were afoot, and that India's armour and strike forces were in their peacetime locations. These tours were undertaken by the US military in India and Pakistan to know about each other's intentions. Second, a mission headed by Robert Gates, the deputy director of the Central Intelligence Agency, was mounted after the crisis had peaked, but its influence in ameliorating the crisis is not in doubt since India and Pakistan took material steps to defuse bilateral tensions following this Mission's visit. Thereafter, India withdrew its remaining armour to their peacetime locations and offered a package of military and non-military CBMs to Pakistan, which fructified into several agreements that are still extant. The United States seems to have underestimated the seriousness of the Brasstacks crisis, but overcompensated by taking the 1990 crisis far too seriously.

The US was particularly concerned, incidentally, that the crisis might acquire nuclear overtones. The American journalist Seymour Hersh later wrote that Pakistan “placed its nuclear weapons arsenal on alert”⁸ during this crisis. Other aspects of his sensational disclosures revealed that in “early spring” General Beg authorised the technicians in Kahuta to “put together nuclear weapons”; in May, American satellites noticed “the evacuation of thousands of workers from Kahuta”; furthermore, satellite intelligence showed “signs of a truck convoy moving from the suspected nuclear-storage site in Balochistan to a nearby Air Force base”; and eventually intelligence picked up “F-16s prepositioned and armed for delivery—on full alert, with pilots in the aircraft.” These sensational disclosures have been dismissed as gross exaggerations, if not complete fabrications, in two studies of these events, although the possibility of a “colossal bluff” being attempted by Pakistan cannot be underestimated. That it could deliver a plausible nuclear threat was not of concern to India at that time; its conviction was that Pakistan did not have a deliverable nuclear weapon. General Sharma, the then Army Chief, demonstrated this sanguineness when specifically asked whether he had apprehended a nuclear strike by Pakistan during the crisis: “No, I don’t think so. There is a lot of bluff and bluster from Pakistan. It is different to talk about something and totally different to do something ... In hard military terms your capacity is not judged by the bluff and bluster, but what you have in your pocket and what you can do with it.”⁹ From India’s perspective, nuclear weapons had no role to play in this crisis. Did they play a role in Pakistan? An important account informs that the United States intercepted a message to the Pakistani Atomic Energy Commission (PAEC) ordering it to assemble at least one nuclear weapon. As Paul Wolfowitz, then Undersecretary of Defence has informed, “We knew that Pakistan assembled a nuclear weapon.” US perceptions that Pakistan had acquired nuclear capabilities, even if they are accepted without question, could have added to Pakistan’s confidence, but this did not exacerbate the dimensions, did not reveal any warlike preparations, which reassured both of the crisis, since India was unaware of these developments. India believed that even if Pakistan had a rudimentary nuclear device, this did not constitute a deliverable nuclear weapon capability. In truth, there were several other reasons to explain the acceleration of this crisis to critical limits. First, the 1990 crisis was multifaceted, since it coincided with a crisis in the internal security situation in Kashmir, and a weakening of governance in New Delhi with the coming into power of the fractious minority Janata government. Laying emphasis only on its military and purported nuclear aspects conveys an incorrect picture of its total

dimensions. Second, the perceptions and misperceptions of the protagonists mirror-imaged each other. Thus “defensive and precautionary” measures by one side were seen as “offensive and warlike” preparations by the other, which aggravated obtaining tensions in the absence of meaningful communications between the two sides. Third, incendiary rhetoric by the two leaderships, largely populist posturing for domestic advantage, also inflamed the situation. During the crisis Prime Minister Benazir Bhutto talked of a “thousand-year war” in Kashmir, and Prime Minister Singh warned Pakistan that “there should be no confusion. Such a misadventure will not be without cost.” These declamations greatly worsened the situation. Finally, the role of the United States in defusing this crisis bears reiteration.

The Kargil Crisis of 1999

The Kargil conflict took place in the wake of the India and Pakistani nuclear tests of May 1998. The origins of the nuclear tests have been discussed at length many a time by several scholars. In the aftermath of the nuclear tests, when faced with considerable international opprobrium, the Indian Prime Minister, Atal Behari Vajpayee, had visited Pakistan while inaugurating a bus service linking the cities of Amritsar and Lahore. Subsequently, he had also signed a number of nuclear confidence-building measures with his Pakistani counterpart, Nawaz Sharif. In light of these developments, the coalition regime led by the Bharatiya Janata Party (BJP) had concluded that relations with Pakistan were improving despite the tensions in the immediate aftermath of the nuclear tests. Consequently, they chose to lower the state of alertness along the Indo-Pakistani international border as well as the Line of Control (LoC) in Kashmir. But in May 1999, India discovered something else that well over 800 Pakistani forces had crossed the LoC in Mushkoh Valley, Kaksar, and Batalik. Worse still, they had managed to occupy a number of vital strategic salients directly above the road from Kargil to Leh and were positioned to interdict Indian military traffic from southern to northern Kashmir.

But, alas, Pakistan could not secure any international support; instead, its provocative cross-LoC intrusions were severely condemned by the international community as an unprovoked, unjustified act of aggression, which had the dangerous potential of spinning out of control. Ultimately, lack of support from China and American pressure, coupled with the military situation turning in India's favour, forced Pakistan to withdraw its ill-considered intrusions. This was formalised in the Clinton-Sharif joint statement which noted that the Kargil

fighting “is dangerous and contains the seeds of a wider conflict,” hence, “it was vital for the peace of South Asia that the Line of Control in Kashmir be respected by both parties,” and that “concrete steps be taken for the restoration of the Line of Control in accordance with the Simla Agreement.”

The confrontation at Kargil underlined two aspects of Pakistan's nuclear policy that could threaten regional stability in South Asia. The first is a doctrine of nuclear deterrence. The 1999 crisis suggested that part of Pakistani politicians and military establishments regarded nuclear weapons as a means to deter India from waging a conventional war. To justify my statement I would like to quote Pakistan's Foreign Secretary who said during the height of the crisis that, “We will not hesitate to use any weapon in our arsenal to defend our territorial integrity.” This statement cannot be dismissed as mere rhetoric, taking into account its timing and its transparent intention to intimidate India. In fairness, it should also be mentioned that Home Minister, L. K. Advani, had called on Islamabad, immediately after the nuclear tests, “to realise the [consequent] change in the geostrategic situation in the region and the world.” This had “brought about a qualitatively new stage in Indo-Pak relations, particularly in finding a lasting solution to the Kashmir problem.” Such reckless statements were largely intended to impress domestic audiences, but had the unintended effect of escalating the ongoing crisis.

Another very relevant question comes up in this context, that is, was the Pakistani decision to undertake the Kargil operations the consequence of Pakistan's belief that the presence of nuclear war will deter India from taking any step. There may be varied answers to this question but the principal matter in this crisis was that both sides took care not to escalate the crisis and such restraints give us a new dimension of stability in South Asia which has occurred due to the nuclear weapons.

The Operation Parakram Crises (2001-02)

The Parakram crises took place in late 2001 and continued through much of 2002. Though they were closely related, there were actually two distinct crises: the first took place in late December 2001 and early January 2002, in the immediate aftermath of the terrorist attack on the Indian Parliament in New Delhi on December 13, 2001. The second took place in the aftermath of the terrorist attack on the Indian Army camp at Kaluchak in Kashmir on May 14, 2002.

The First Phase

The Parakram Crisis-1 began when tensions between India and Pakistan were already high. The 9/11 attacks on the US, and the US war in Afghanistan had already covered the region with uncertainty. Both India and Pakistan were competing to be a part of the US war on terror, and India saw its campaign against the separatists in Kashmir as part of the war on terror, an interpretation which Pakistan sought to refuse. There was already tension going on between the two countries and in this time of high tension in the month of December, a group of Pakistani terrorists attacked the Indian Parliament compelling the Indian Prime minister to call for a “decisive battle.” The next day India identified the Pakistani based Lashkar-e-Taiba as the group responsible for the attack and delivered a formal demarche to Pakistan demanding that Pakistan should terminate all activities of LeT. India was ready for a battle this time. But there was excessive pressure from the international community (particularly America) to exercise restraint. As the situation escalated US designated LeT and JeM both as foreign terrorist groups and asked Pakistan to take actions against them. In a small step in that direction Pakistan arrested some of the leaders of LeT and JeM on December 30. Though active US mediation efforts continued in the region, senior administration of the US were publicly voicing optimism that the crisis might be easing. Both Pakistan’s moves against the terrorist groups as well as British and American pressures were seen as gain by the Indian side. Around January 7, the crisis was essentially over and definitely after Musharraf’s nationally televised speech on January 12, when he promised to take action against Pakistani extremists.¹⁰

Now the question is, what role did nuclear weapons play in this crisis? On January 2, at the height of the crisis, Prime Minister Vajpayee, in a public speech said that India would not spare any weapon in its fight against terrorism. This could be seen as an indirect nuclear attack threat, but also this could be a stand-alone statement, making it difficult to draw any permanent conclusions. For example, when the Indian Army Chief remarked at a press conference that anyone mad enough to launch a nuclear strike against India would be punished severely. India also conducted a missile test at the end of January, this test can be seen a nuclear signalling to Pakistan, but again it can also be a regular exercise on the part of Indian defence.

Islamabad was also equally cautious, and Pakistani officials repeatedly ruled out the possibility of a nuclear war. The restraint that political leaders chose so as not to escalate the crisis is an example of the deterrence theory. So

it can be said that nuclear weapons in this crisis acted as a deterrent rather than an escalator.

The Second Phase (May 14, to June 5, 2002)

The second crisis began with a terrorist attack on Indian army camp in Kaluchak in Jammu and Kashmir on May 14, 2002. The Army was angered by the attack and pressed Indian Prime Minister Vajpayee and his cabinet for permission to attack Pakistani military targets. On May 18, India expelled Pakistan's ambassador. That same day, thousands of villagers fled Pakistani artillery fire in Jammu. On May 2, clashes killed 6 Pakistani soldiers and 1 Indian soldier, as well as civilians from both sides. Separatist leader Abdul Ghani Lone was assassinated on May 21, and the next day Prime Minister Vajpayee warned his troops to prepare for a "decisive battle." Beginning May 24 and lasting for several days, Pakistan carried out a series of missile tests. On June 7, an Indian UAV was shot down inside Pakistan near the city of Lahore^[17].

At the same time, attempts to defuse the situation continued. Alarmed at the possibility of nuclear war, the US ordered all non-essential citizens to leave India on May 31. Both Vajpayee and Musharraf blamed each other for the stand-off, and a visit by Russian President Vladimir Putin could not mediate a solution. But by mid-June, the Indian government accepted Musharraf's pledge to end militant infiltration into India, and on June 10, air restrictions over India were ended and Indian warships removed from Pakistan's coast. While tensions remained high throughout the next few months, both governments began easing the situation in Kashmir. By October 2002, India and Pakistan had begun to demobilise their troops along their border, and in 2003 a cease-fire between the two nations was signed. No threat of conflict on such a grand scale has occurred again since 2002.

As both India and Pakistan are armed with nuclear weapons, the possibility that a conventional war could escalate into a nuclear one were raised several times during the stand-off. Various statements on this subject were made by Indian and Pakistani officials during the conflict, mainly concerning a no-first-use policy. Indian Foreign Affairs Minister, Jaswant Singh, said on June 5 that India would not use nuclear weapons first, while Musharraf said on June 5 he would not renounce Pakistan's right to use nuclear weapons first. In December 2002, Musharraf said he warned India "not to expect a conventional war from Pakistan" if troops crossed the Line of Control in Kashmir. India's Defence Minister replied that India could "take a bomb or two or more but when we

respond there will be no Pakistan.” However by this time the Musharaff comments had been sensationalised in the media and Pakistan looked like it had the upper hand. Also President A. P. J. Abdul Kalam claimed on June 19, that nuclear weapons have helped avert war in this region. A Defence Intelligence Agency report in May 2002 estimated that a nuclear war between India and Pakistan could, in a worst-case scenario, lead to 8-12 million deaths initially and millions more later from radiation poisoning.

The above shown crises were not actually nuclear crises in definitive terms like that of the Cuban missile crisis. There are unconfirmed reports of missiles, presumably with nuclear warheads, being deployed and the politicians of the two countries gave a number of irrational statements without thinking about the consequences of their statements. Did they escalate these crises further? Or succeed in ensuring restraint? In the absence of fuller information it is difficult to be certain in this regard. How these crises escalated but deterrence failure was averted has been discussed; the pattern of crisis development and escalation control was uniform in all these cases. Fortunately, they did not proceed to conflict except in the Kargil case, but that crisis, too, was contained before it could escalate to a general war. This pattern of recurrent crisis but successful escalation control might well be a South Asian contribution to strategic theory.

Non-state Actors and Nuclear Proliferation with Special Reference to the South Asian Situation

The issue of non-state actors and proliferation of nuclear weapons is typically framed as one of the most important threats to the region of South Asia. High forms of nuclear terrorism involves theft or purchase of fissile material leading to the fabrication and detonation of a crude nuclear weapon—an improvised nuclear device. In addition to the dangers of the non-actors being end users it is also important to note the proliferation risks posed by non-actors as suppliers of nuclear material, technology, know-how and, conceivably, the weapons themselves. The extensive A. Q. Khan proliferation network is a strong example of the second kind of proliferation case.

Within South Asia, Pakistan's uranium-based nuclear weapons programme is of significant concern. Pakistan's relatively large stockpile of HEU (highly enriched uranium) generates concerns that are no longer hypothetical. Pakistan is slowly making efforts to return to normalcy but the grave danger that it could inadvertently become a source of a nuclear terror attack on India and the rest of the world still holds true. A high-powered US Commission on the Prevention

of Weapons of Mass Destruction report—*World At Risk*—identifies Pakistan as the “intersection of nuclear weapons and terrorism.” Indeed, in a *Foreign Policy* magazine poll in 2007, 74 per cent of 117 non-governmental terrorism experts opined that Pakistan might likely transfer nuclear technology to terrorists in the next three to five years. Another area of concern is that Pakistan has emerged as the safe haven for Al Qaeda in the wake of intense military pressure on the tribal militants by NATO forces within Afghanistan. The political instability prevailing in the nuclear capable country since late 2007 makes it a potential location for terrorists to acquire nuclear weapons and materials.

With Pakistan obviously on his mind, Prime Minister Manmohan Singh warned of the dangers posed by nuclear explosives falling into the hands of non-state actors, posing danger to India and other countries. Addressing the Nuclear Security Summit Washington, he pitched for “zero tolerance” against individuals and groups which engage in illegal trafficking of atomic explosives and announced India’s decision to set up a “Global Centre for Nuclear Energy Partnership.” “Nuclear security is one of the foremost challenges we face today,” Singh told the conference of 47 countries, which discussed ways to ensure that nuclear material and technology do not fall into the hands of terrorists. Commending US President Barack Obama for his initiative in convening the summit, he said India would like the summit to lead to concrete outcomes which help make our world a safer place. “The danger of nuclear explosives or fissile material and technical know-how falling into the hands of non-state actors continues to haunt our world,” Singh said, adding India is deeply concerned about the danger it faces, as do other states, from this threat.

He regretted that the global non-proliferation regime has failed to prevent nuclear proliferation as clandestine proliferation networks have flourished and led to insecurity for all, including and especially for India. “We must learn from past mistakes and institute effective measures to prevent their recurrence,” Singh said. He underlined that the world community should join hands to eliminate the risk of sensitive and valuable materials and technologies falling into the hands of terrorists and illicit traffickers. “There should be zero tolerance for individuals and groups which engage in illegal trafficking in nuclear items,” he emphasised. Singh said the primary responsibility for ensuring nuclear security rests at the national level. “But national responsibility must be accompanied by responsible behaviour by states. If not, it remains an empty slogan,” he said, adding “all states should scrupulously abide by their international obligations.” He said that the dangers of nuclear terrorism make the early elimination of atomic weapons

“a matter of even greater urgency.” Global non-proliferation, to be successful, should be universal, comprehensive and non-discriminatory and linked to the goal of complete nuclear disarmament.

The concept of nuclear terrorism is longer science fiction. Given the state of affairs, improved security measures can reduce the risk of nuclear terrorism in South Asia. The need of the hour is to implement several steps to improve the nuclear security in South Asia.

The China Factor

Before coming to the conclusion, one factor that needs a little elaboration is the China factor in South Asia's nuclear question. Chinese nuclear exports and assistance to Pakistan were a major proliferation concern for many years. China allegedly provided direct assistance to Pakistan's nuclear weapons programme in the past, including supplying Pakistan with warhead designs and enough HEU (highly enriched uranium) for at least two nuclear bombs. China also provided assistance and transferred dual-use materials that could be applied in the development of nuclear weapons. Beijing insisted that China's assistance involved the provisions of peaceful technical information rather than weapons-related technologies or materials.

Though Chinese nuclear exports and assistance to Pakistan was a contentious issue in Sino-US relations over the years, there were significant differences between Washington and Beijing regarding nuclear non-proliferation and peaceful use of nuclear energy. US post-Cold War foreign policy has focused on proliferation of WMD as a major threat to US interests and regional/global security and has undertaken specific measures, including strengthening the international nuclear non-proliferation regime and threatening/applying sanctions to punish/deter proliferation behaviour. While China supported the principles of nuclear non-proliferation, it had also emphasised the importance of promoting the peaceful use of nuclear energy. China criticised the policies of industrialised countries that restrict and deny the legitimate demands of developing countries for peaceful use of nuclear energy and technology transfers for economic development under the pretext of preventing nuclear proliferation.

Another very recent development in this issue was China's acknowledging that it will build two new nuclear reactors in Pakistan in a deal that could reignite concerns about proliferation and safety of atomic materials in Pakistan. After comments made by China National Nuclear Cooperation (CNNC) that it will build at least two 650 MW reactors at Chashma (near Rawalpindi) in

Pakistan, a foreign ministry spokesman said the two countries were cooperating in the field of nuclear energy. Jiang Yu, affirmed Beijing's cooperation with Islamabad saying it was consistent with international obligations under International Atomic Energy Agency's (IAEA) supervision.

Such help by China is obviously fuelling up nuclear proliferation in South Asia.

With the nuclearisation of South Asia, there are three choices before India and Pakistan:

- First to proceed with weaponisation along with suitable delivery systems to “deter” aggressions from each other.
- Secondly to join the non-proliferation regime and sign NPT and other deeds of non-proliferation.
- Thirdly to enter into a dialogue with each other.

India and Pakistan have such huge baggages of differences that the third option is an obvious no. Now, to analyse the other two options, with regard to the first option, it is clearly imaginable that the huge cost that will incur will have a spill-over effect on the economy of both the countries, and India is certainly not ready to sacrifice its economic growth in the name of defence. Also, for Pakistan the first option is not a bankable option, because of its own economic condition. The second option was never preferred by these two countries. Also the Indo-US nuclear deal is a reason for increasing tension between the two countries. Pakistan is very sceptical about Indian intentions and so it will surely try to strengthen its side as it is doing with Chinese help.

So a realistic argument may be that both the countries should have the freedom to acquire weapons, because as much as we shout, the truth is that an arms race is inevitable. In the long term there may be some fruitful dialogue delivery, which may normalise the situation, but that is a long story. Truly speaking in South Asia it is unthinkable that peace can come through arms (nuclear) control.

Notes

1. For a better understanding of this debate please refer to Sumit Ganguly and S. Paul Kapur, eds., *Nuclear Proliferation in South Asia*, pp. 1-5.
2. For a detailed history of India's nuclear weapons programme, the following books and links can be followed. Arpit Rajain, *Nuclear Deterrence In Southern Asia*, Sage Publications, New Delhi. George Perkovich, *India's Nuclear Bomb: Impact on Global Proliferation*

- (London: University of California Press,1999). http://nuclearfiles.org/menu/key-issues/nuclear-weapons/issues/proliferation/india/charnysh_india_analysis.pdf.
3. Morten Bremer Maerli and Sverre Lodgaard, *Nuclear Proliferation and International Security* (Routledge, 2007).
 4. Sumit Ganguly and S. Paul Kapur, eds., *ibid.*, p. 20.
 5. Sumit Ganguly and S. Paul Kapur, eds., *ibid.*, p. 21.
 6. Sumit Ganguly and S. Paul Kapur, eds., *ibid.*, pp. 21-22.
 7. P. R. Chari, Pervaiz Iqbal Cheema and Stephen Philip Cohen, *Perception, Politics and Security in South Asia: The compound crisis of 1990* (London: Routledge, 2003), p. 84.
 8. Seymour H. Hersh, "On the Nuclear Edge," *The New Yorker* (March 29, 1993), p. 65.
 9. Interview given by Gen. V. N. Sharma to *The Economic Times*, May 18, 1993.
 10. Sumit Ganguly and Devin Hagerty, *Fearful Symmetry, India Pakistan Crises in the Shadow of Nuclear Weapons* (Oxford University Press).

4. INDIA'S ONGOING TRYST WITH THE NPT AND THE CTBT

India's nuclear tests in May and its self-claimed status of a nuclear weapons state had produced expected outcomes for India but a much unexpected outcome for the global nuclear order. Why do I say expected outcomes for India, because it was more or less sure that the nuclear weapons states would not be happy to share their monopoly rights with another small power, compared to them. The results were the economic sanctions and isolation of India. And why was it an unexpected outcome for the global nuclear order, because nobody had expected India to take such a daring step against the world's economic leaders. The five tests of 1998 was a breakthrough for India not only to the world but also to herself. It boosted her confidence level that she had the power to go against the nuclear apartheid and proclaim herself as a nuclear weapons state.

In spite of that test, India is a faithful and true supporter of non-proliferation. From the very first India has an abiding interest in non-proliferation of Weapons of Mass Destruction not only for its own security, but for the sake of peace and security of the world at large. It is not much remembered that India was amongst the initiators of the proposal for an international instrument to prevent the proliferation of nuclear weapons. The Nuclear Non-Proliferation Treaty (NPT) has been from the very beginning subjected to a plethora of criticism. It is a known fact that India is not a signatory to the NPT. Its discriminatory nature, its inefficiency to check vertical proliferation, its incapability to prevent the pursuit of nuclear weapons programmes by other non-nuclear weapons states and its failure to keep its commitment on the eventual elimination of nuclear weapons, are reasons. The NPT should be such an instrument that should involve not only a commitment by non-nuclear weapons states to abjure nuclear weapons, but also a commitment from those in possession of nuclear weapons to cease further production of fissile material for weapons purposes, and to move towards complete elimination of nuclear weapons within a time-bound framework. The Treaty, as it eventually emerged, unfortunately, addressed only a part of the proliferation challenge.

India's not signing the NPT is portrayed in a number of colours. One of them is that India from the very first was against a discriminatory treaty. The

second reason is obviously the strategic threat posed by India's neighbours, especially China. Since India had not tested by 1967, she was grouped into the Non-Nuclear Weapon States (NNWS). The nuclear regime was only left with this identity to be awarded to India. This identity would not give India a secure environment to survive. China's testing of nuclear weapons had a multidimensional impact on India's national security. It influenced the internal debate on India's defence policy in general and nuclear policy in particular. Nuclear non-proliferation should be a pathway for nuclear disarmament. But the Nuclear Non-Proliferation treaty has never been a pathway to full nuclear disarmament. The Nuclear Weapon States never paid real attention to reduce their nuclear arsenals. The Treaty has opposed only "horizontal" proliferation (i.e., testing and acquisition of nuclear weapons) but "vertical" proliferation (i.e., testing, production, and stockpiling of nuclear weapons) was never a concern for them. Though the exact number of nuclear weapons in global arsenals is not known, as each country guards these numbers as closely held national secrets, what is known, is that more than a decade and a half after the Cold War ended, the world's combined stockpile of nuclear warheads remains at unacceptably high levels. Still, now the total nuclear warheads possessed by the Nuclear Weapons States are somewhat around 20,265. Though India conducted a nuclear test in 1974, the Indian nuclear weapons programme was more or less shut down for the next decade and a half. The final step was taken only in the year 1998, when India tested its nuclear capability. These tests were seen by Washington as a dangerous challenge to the very relevance and rationale of NPT. Though India, according to a strict definition of nuclear non-proliferation regime, is out of the regime, it should be noted that it has seen proliferation itself as a threat to international stability and has always shown its "exemplary non-proliferation record of four decades and more." India's nuclear doctrine, which was formally issued on January 4, 1993 was ornamented by the most logical formulas of real definition of disarmament. The two most credible features of India's Nuclear doctrine are the posture of "No First Use," non-use against non-nuclear weapons states, and "Maintaining a Credible Minimum Deterrent." If we turn towards the moral aspect, India has an extremely clean record.

India has an uncomfortable relationship with the non-proliferation regime, and that history is marked by various twists and turns. These turns of its approach toward the global nuclear non-proliferation regime were attributable to its changing nuclear perceptions, objectives, and motivations which were precipitated by a myriad factors.

India's nuclear tests and declaring itself a nuclear weapons state had shaken the edifice of what Minhaz Merchant described as "nuclear hegemony carefully constructed by the five 'original' nuclear weapon powers (the P-5)." He further added: "Their duplicity in denying the same right to other countries ..."²¹ As far as the legal aspect is concerned, by testing nuclear weapons in 1974 as well as in 1998, India broke no law, either domestic or international. It can be well seen that it is the P-5 nations who have repeatedly gone against the core principles of non-proliferation. It is clearly mentioned in Article I of the nuclear non-proliferation treaty that: "Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear weapons state to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices."²² But in spite of that China clandestinely allowed the transfer of nuclear technology to Pakistan, North Korea and Iran. Article VI of the nuclear non-proliferation treaty further underlines the responsibilities of the nuclear states also to eliminate their nuclear warhead. The text of the treaty goes as follows: "Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control."²³ Even then, no serious efforts have been made to eliminate all nuclear weapons by the so-called official "nuclear weapon states." India had not signed the NPT, and was therefore perfectly within legitimate power to exercise its nuclear option. New Delhi, never got its material or technology transferred from anywhere, but it was a fully indigenous process. Thus India, even without signing the NPT, was abiding by the rules of the treaty.

India's strategic environment is also unique. It is engaged in enduring rivalries with two nuclear states, China and Pakistan. These states initiated three of the four wars they fought with India. Moreover, Beijing has joined other states to maintain its preponderance over Asia, as according to China, it is only India that can serve as the basis of an effective regional counterweight to China, which Beijing wants to avoid. The Indian experience with the United States has also a path of major twists and turns, from adversarial to apathetic. The arrival of the USS Enterprise during the Bangladesh War of 1971 was a wake-up call for India that without sufficient deterrent it could be an easy target of hegemonic

intervention. All these incidents show that nuclear deterrence is a reality at least for India's security scenario.

India from the very first was a staunch proponent of nuclear disarmament. India's first Prime Minister Jawaharlal Nehru made several proposals for nuclear disarmament at the United Nations and other international forums. He stressed that "the way of the atom bomb is not the way of peace or freedom" and told the Indian Parliament on April 2, 1954: "We have maintained that nuclear (including thermonuclear), chemical and biological (bacterial) knowledge and power should not be used to forge these weapons of mass destruction. We have advocated the prohibition of such weapons, by common consent, and immediately by agreement amongst those concerned, which latter is at present the only effective way to bring about their abandonment."⁴ India was an active member of United Nations Eighteen Nation Disarmament Committee that discussed on disarmament of nuclear as well as conventional weapons.⁵ Also, during the Prime Ministership of Rajiv Gandhi, a major step was taken towards nuclear disarmament by presenting an action plan (the precursor to today's CTBT) for complete elimination of nuclear weapons within a stipulated time frame. But this was never taken up as it was discarded by the nuclear weapons states. In reality the nuclear weapons states did nothing concrete to fulfil the dream of complete disarmament, only wanting that other nations should not get access to the bomb.

The debate on nuclear non-proliferation in India started from the early 1990s. Prominent among these was the debate on the extension of the Nuclear Non-Proliferation Treaty, which was finalised in 1995, as well as the pressures applied by the US government upon India to sign the treaty and to abstain from developing a full-fledged nuclear arsenal. On non-proliferation issues, India from the very first has taken a clear and committed stand. According to India any non-proliferation agreement should meet two vital conditions: firstly it should be non-discriminatory (i.e., no special privilege should be given to any nation(s); and it should incorporate a clear link process of elimination of this class of weapons of mass destruction. In the absence of these two conditions, a non-proliferation agreement will not be successful. These are the shortfalls of the Non-proliferation Treaty, which is why even after decades the NPT has not succeeded even in initiating negotiations for the elimination of nuclear weapons.

The NPT: An Indian Perspective

The nuclear build-up of the United States and the USSR during the 1950s

made proliferation a growing concern. Ireland had taken the lead, beginning in 1958, in sponsoring a series of UN Resolutions designed originally to study the dangers of proliferation and then to prevent it. The major thrust to this effort was given by France's nuclear test in 1960. In 1961, the UN General Assembly unanimously approved an Irish resolution calling on all states, particularly the nuclear powers, to conclude an international agreement to refrain from transfer or acquisition of nuclear weapons.⁶ This resolution was adopted unanimously. The Cuban Missile Crisis two years later showed that it was urgent to reach a consensus for dealing with nuclear weapons in non-Nuclear-Weapon States. Meanwhile the Twelve-Nations Group was enlarged to be the Eighteen-Nation-Disarmament-Committee (ENDC) which included India, convened in Italy in July 1965 to begin negotiating the NPT.

In January 1964, the USA and the USSR each proposed an agenda for the ENDC in Geneva. Their proposals had four subjects in common, one of them being a nuclear non-proliferation treaty which had been agreed upon as the primary goal of the conference by 1965.⁷ It was mutually agreed that any state which would have manufactured and exploded a nuclear weapon or other nuclear explosive device prior to January 1, 1967 would be referred to as a Nuclear Weapons State (NWS).⁸ The intent of the treaty was to bind both NWS and NNWS so that the former would not proliferate any kind of nuclear explosive device or any kind of control over those to the latter, and the latter would not accept such proliferation from any vendor and would refrain from developing such devices themselves. Another clause was added to the treaty that all NNWS to accept the safeguards of the IAEA. But unfortunately none of these are binding on any states, and so the treaty has only become a preventive guidebook for non-proliferation rather than a mandatory course.

The Nuclear Non-Proliferation Treaty (NPT) has been from the very beginning subjected to a plethora of criticisms. It is an already known fact that India is not a signatory state to the NPT. Its discriminatory nature, its inefficiency to check vertical proliferation, its incapability to prevent the pursuit of nuclear weapons programmes by other non-nuclear weapons states and its failure to keep its commitment on the eventual elimination of nuclear weapons. The Treaty, as it eventually emerged, unfortunately addressed only a part of the proliferation challenge. India's not signing the NPT is portrayed in a number of colours. Firstly, India from the very beginning was against a discriminatory treaty. The Second reason is obviously the strategic threat posed by India's neighbours especially China. Since India had not tested by 1967, it was grouped

into the Non-Nuclear Weapons States (NNWS). The nuclear regime was only left with this identity to be awarded to India. This identity would not give India a secure environment to survive. The NPT's grand bargain rests on three pillars: non-proliferation, the peaceful use of nuclear energy, and disarmament.

Non-proliferation: Under Article I of the NPT, nuclear-weapon states pledge not to transfer nuclear weapons or other nuclear explosive devices to any recipient or in any way assist, encourage or induce any non-nuclear-weapon state in the manufacture or acquisition of a nuclear weapon. Under Article II of the NPT, non-nuclear-weapon states pledge not to acquire or exercise control over nuclear weapons or other nuclear explosive devices and not to seek or receive assistance in the manufacture of such devices. Under Article III of the Treaty, non-nuclear-weapon states pledge to accept IAEA safeguards to verify that their nuclear activities serve only peaceful purposes.

Peaceful Uses: NPT Article IV acknowledges the right of all Parties to develop nuclear energy for peaceful purposes and to benefit from international cooperation in this area, in conformity with their non-proliferation obligations. Article IV also encourages such cooperation. The treaty recognises the inalienable right of sovereign states to use nuclear energy for peaceful purposes, but restricts the right for NPT parties to be exercised “in conformity with Articles I and II” (the basic non-proliferation obligations that constitute the first pillar of the treaty).⁹

Disarmament: Under Article VI of the NPT, all Parties undertake to pursue good-faith negotiations on effective measures relating to cessation of the nuclear arms race, to nuclear disarmament, and to general and complete disarmament.

These pillars are interrelated and mutually reinforcing. An effective non-proliferation regime whose members comply with their obligations provides an essential foundation for progress on disarmament and makes possible greater cooperation on the peaceful use of nuclear energy. With the right to access the benefits of peaceful nuclear technology comes the responsibility of non-proliferation. Progress on disarmament reinforces efforts to strengthen the non-proliferation regime and to enforce compliance with obligations, thereby also facilitating peaceful nuclear cooperation.

The state of the NPT today is highly destabilised, threats to the NPT have always been deemed to be arising from the outside—from nations refusing to subscribe to it, nor accepting its safeguards regime. Efforts, therefore, have traditionally concentrated on ensuring the universality of the treaty. The very limited success of the treaty should firstly be attributed to the nuclear weapons

states themselves, because nuclear deterrence and defence has been a primary necessity to their national security strategy of each of them. The other obvious reasons for NPT's failure are of course the three states, North Korea, Pakistan and Iran. Though India is a non-signatory to the NPT, her behaviour regarding nuclear weapons has remained the most consistent. It has never broken any law, nor has been a threat to the world community. If Pakistan, North Korea or Iran wants to be treated like India, they should concentrate on their WMD related behaviour.

India's commitment to nuclear non-proliferation is not new. Indeed, this is an exclusive area where we can truly claim to be among the founding fathers. As with the rest of the world, our understanding of the complexities of the challenges posed by nuclear weapons developed over time. China's testing of nuclear weapons in 1964 was a major thrust to India's policy of opening up its nuclear options. India's original aim was to pursue a transparent and safe nuclear energy programme that would be committed to the peaceful, non-military uses of nuclear energy, but would retain its independence within the larger context of working politically towards the goal of universal nuclear disarmament.

As the unequal and discriminatory nuclear non-proliferation regime gradually started developing, India was vocal to oppose it. The cornerstone of this regime was the Nuclear Non-Proliferation Treaty, which was opened for signature on July 1, 1968, and ultimately came into force in 1970. It was widely accepted among India's strategic elite that the nature of the NPT contradicted the original vision of an international order based on morality rather than on military power, as it gave certain privileges to those countries relying on the military might of nuclear weapons. Another reason why India disapproved the treaty was that it restricted India's quest for major power status. When the NPT came for adoption, India was under great pressure to sign it. It was one of the toughest decisions that the Indian foreign policy developers took at that time. Ashley J. Tellis summarises India's negotiation with the NPT as follows: "Indian strategic policy for much of the Cold War period and thereafter focused on attaining two sets of objectives. The first set of objectives—pursued mainly at the diplomatic level—consisted of espousing the global abolition of nuclear weaponry. These calls for abolition were often couched either in moralistic term drawn from indigenous traditions or in the secular language of liberal internationalism, both of which by imparting a strong 'idealistic' flavour to Indian rhetoric rendered such comments misplaced in the highly competitive arena of international politics. ... Because this objective could not be attained,

however—thanks both to the logic of technology and to political resistance on the part of the established nuclear powers—India gradually settled for a fallback option: preventing any external political or legal restraints from encumbering its right to formally develop a nuclear arsenal when that might be required.”¹⁰ According to Tellis the “fallback option” is India’s “desire to maintain India’s autonomy with respect to its nuclear choices that existed since the beginning of its nuclear programme.”¹¹

The most important evidence of India’s opposition to the NPT came in May 1974, when India first tested a nuclear device in Pokhran in Rajasthan. This test galvanised international efforts at non-proliferation. According to one UN official involved in NPT negotiations, “it breached the walls of the ‘nuclear club’ and once again raised the spectre of the Nth country problem.”¹² India continued to maintain its opposition to the NPT all through the 1970s and 1980s. Though India opposed the treaty, it did not start building up a nuclear arsenal from the first test itself. The decision of building the bomb came after a series of incidents that occurred in her neighbourhood. Firstly, Pakistan’s success in the acquisition of uranium enrichment capability and subsequently a weapons capability (announced by A. Q. Khan in January 1987) made it important for India to take some quick action. Also the Reagan Administration was turning a blind eye to Pakistan’s weapons-related activities in order to continue using the country as a working place to supply military and economic aid to the Afghan Mujahedeen forces fighting the Soviet Union.¹³ All these developments were added to the nationalistic vigour of the new BJP government which led to the ultimate tests of 1998. Another significant event occurred in the 1990s, that is, the unlimited extension of the NPT in May 1995 largely because of the pressure exerted by United States and her allies. This treaty outcome gave every indication to India that the Nuclear Weapons States were keen to maintain their monopoly over nuclear arsenals.

Let us now examine the case of three other states, Pakistan, Iran and North Korea which has created a huge anxiety in the regime. Let us start with Pakistan. The first thing that is noticeable is that Pakistan like India is a non-signatory to the NPT, but there is a huge difference between their reasons of not signing the NPT. India has not signed the treaty for its discriminatory nature whereas Pakistan has not done so because India did not sign the treaty. The Pakistani Foreign Ministry spokesman, Abdul Basit, who reportedly told Kyodo news agency in May 2010 that Pakistan has abandoned its historic position that it would sign the Nuclear Non-Proliferation Treaty (NPT) as a non-nuclear

weapons state (NNWS) in case of India joining it so. When asked to spell out the new terms under which Pakistan would consider joining the NPT, Basit told the news agency that it would only join as recognised nuclear weapons state (NWS). Explaining further, Basit said that Pakistan cannot give up nuclear weapons either. He said “if you have a conventional imbalance between Pakistan and India, then obviously our reliance on nuclear deterrence increases correspondingly.” The meaning is that Pakistan would enhance its capabilities and number of weapons as well.¹⁴ Pakistan is also uncomfortable with Indo-US civil nuclear deal. Pakistan had been canvassing that the deal is discriminatory, that it would undermine the nuclear balance in South Asia and lead to an arms race. At the same time, several attempts were made to impress upon the US and other nuclear supplier countries that Pakistan is also facing a severe power shortage.

If we have a thorough look at Pakistan's nuclear history, we can see that it is actually covered with false commitments and least successful efforts for true non-proliferation. Firstly it is a well-known fact that Pakistan in the 1970s used extensive clandestine procurement networks to obtain technology for its own nuclear weapons programme. Former Pakistani nuclear scientist A. Q. Khan directed this procurement and subsequently used a similar network to supply Libya, North Korea, and Iran with materials related to uranium enrichment for profit. The network was one of the major components of non-proliferation. Secondly many observers continue to be concerned that other states or terrorist organisations could obtain material or expertise related to nuclear weapons from elements in Pakistan. This view is further encouraged by recent instability and governance problems. According to reports, Al Qaeda unsuccessfully sought nuclear weapons assistance from the Khan network¹⁵ but did receive limited help from at least one other group in Pakistan. Scientists who may have provided some help to Al Qaeda representatives were retired Pakistan Atomic Energy Commission scientists, long-time rivals of A. Q. Khan, and Islamic fundamentalists—Sultan Bashiruddin Mahmood and Chaudiri Abdul Majeed.¹⁶ It is even reported that both these scientists met Osama bin Laden and Ayman al-Zawahiri in August 2001 in Afghanistan to discuss, among other topics, what would be needed to develop a nuclear weapons infrastructure, details of nuclear bomb design, and how to construct radiological dispersal devices.¹⁷ It is only after the United States intervened in the matter in 2010 that Pakistan took some steps regarding the issue. Still the Pakistani government did not press criminal charges against Mahmood and Majeed, but only put the scientists under house

arrest in 2002. This showed that how little concerned the Pakistani Government was about its nuclear arsenal's security. Such accounts raise the possibility of other groups or individuals also providing Al Qaeda with nuclear expertise, but less information is publicly available.¹⁸

Pakistan's nuclear history is spotted with marks and spots. Therefore as a horizontal proliferator Pakistan will significantly influence global non-proliferation regime. The state, from its birth, is in a turmoil condition. It faces enormous security challenges emanating from religious extremists, anti-US sentiments, and above all a militant political culture that has taken deep root in the country. There is a strong fear that Pakistan's nuclear weapons programme could lead to fissile material falling into the hands of terrorists or a devastating nuclear exchange with India.

Iran's nuclear programme is one of the most important issues in one of the world's most volatile regions. It is important to note that Iran is a member to the Nuclear Non-Proliferation Treaty (NPT) and concluded the comprehensive safeguards agreement with the IAEA in 1974. Iran signed the Additional Protocol in 2003, but has not yet ratified it. American and European officials believe Tehran is planning to build nuclear weapons whereas Iran's leadership says that its goal in developing a nuclear programme is to generate electricity without dipping into the oil supply it prefers to sell abroad, and to provide fuel for medical reactors. Iran and the West have been at odds over its nuclear programme for years. But the dispute has picked up steam since November 2011, with new findings by international inspectors of IAEA. Drawing on evidence provided by more than 10 member states as well as its own information, the IAEA said Iran had carried out activities "relevant to the development of a nuclear explosive device."¹⁹ The report documents have claimed that Iran is testing explosives, experimenting on detonating a nuclear weapon, and working on weaponisation. Even the UN Security Council has alleged that Iran hid an enrichment programme for 18 years, so the Security Council says that until Iran's peaceful intentions can be fully established, it should stop enrichment and other nuclear activities.

Iran being a signatory to NPT has violated its rule, though it argues that it is simply doing what it is allowed to do under the treaty and intends to enrich only for power station fuel or other peaceful purposes. It can be judged from Iran's activities that though Iran has become ready for some negotiations, it is unlikely that it will stop its enrichment processes. If compared to India's nuclear record, we can certainly see that it can never match India's commitment to non-

proliferation.

North Korea is another negative component of this problematic regime. On January 10, 2003, North Korea announced that it was withdrawing from the Nuclear Non-Proliferation Treaty (NPT), effective immediately, and that its withdrawal from the NPT left it free from the binding force of its Safeguards Agreement with the International Atomic Energy Agency (IAEA). Since then it has tested two nuclear devices, one in 2006 and the other in 2009. In September 2005, in the Joint Statement of the Six-Party Talks, North Korea committed to abandoning all nuclear weapons and existing nuclear programmes and to return, at an early date, to the NPT and to IAEA safeguards. North Korea has not honoured its commitments and currently faces sanctions under two UN Security Council Resolutions for its announced nuclear tests in 2006 and 2009. The full implementation of the Joint Statement remains the core objective of the Six-Party Talks.²⁰

As the analysis of the above case studies suggests, except India the other countries have been either guilty of violating the rules of the non-proliferation treaty, or have been caught for deepening the regime's problem. What does a nuclear North Korea or a nuclear Iran mean for the region and the world? In the absence of any move toward disarmament, North Korea acquiring nuclear weapons in violation of treaty obligations is likely to increase the incentives for other countries to acquire such weapons, increasing the prospects of further proliferation.²¹ Also Iran's progress on its nuclear project is a further cause of worry for this regime. On the other hand, India's non-proliferation record is spotless. Originally, the decision that India took in May 1998 allowed India to end its nuclear ambiguity and move towards a more positive approach towards arms controls at all levels. To sum up, it is clear that the NPT is in huge crisis. The proliferation continues. But India in spite of being a non-signatory to the NPT has never taken undue advantage of its position. It has always tried to be a true supporter of disarmament and non-proliferation unlike other non-signatories.

CTBT: Why India Said No

Preventing the spread and build-up of nuclear weapons remains one of the highest priority international security challenges. Success depends on a multi-pronged global strategy, including a verifiable ban on nuclear explosive testing to prevent the emergence of new and more deadly nuclear weapons. The Comprehensive Test Ban Treaty (CTBT) was a firm step towards arresting

the quest for more weapons and was adopted by the United Nations General Assembly on September 10, 1996. It opened for signature in New York on September 24, 1996, when it was signed by 71 states, including five of the eight then nuclear capable states. As of April 2012 the Treaty has 183 signatories and has been ratified by 157 nations. The treaty will enter into force 180 days after the date of the deposit of the instruments of ratification of the 44 states listed in an Annex to the treaty. All the 44 states possess nuclear power reactors or nuclear research reactors. Three of these states—India, North Korea and Pakistan—have neither signed nor ratified the treaty, and a further six—China, Egypt, Indonesia, Iran, Israel and the United States—have signed but not yet ratified the treaty.²² Despite 10 years of global efforts to promote the entry into force of the Comprehensive Test Ban Treaty (CTBT), the treaty's enactment appears a long way off. The treaty is yet not signed by India, Pakistan and North Korea. The United States has signed the CTBT but yet not ratified it. The Obama Administration announced early in its tenure that it would resubmit the CTBT to the Senate for ratification and has been engaging with senators and their staffs on the issue.

India is famously opposed to the CTBT for valid reasons. India's stand on CTBT was summed up by former Foreign Secretary Shyam Saran in his address at the Brookings Institution in March 2009, where he said: "... India will not sign the CTBT unless the world moved categorically towards nuclear disarmament in a credible time frame." India had campaigned for the conclusion of a Comprehensive Test Ban Treaty the most vigorously for a long period of time. In 1954, India initiated a global call at the UN Disarmament Commission for an end to nuclear testing and a freeze on fissile material production. Likewise in 1978 and 1982, at the Special Sessions on Disarmament, India proposed measures for banning nuclear testing, and in 1988 it introduced the Rajiv Gandhi Action Plan for the total elimination of nuclear weapons. These proposals were shaped by the belief that banning nuclear testing would be an irreversible step toward the elimination of all nuclear weapons within a specific time frame. However after co-sponsoring a resolution for a test ban treaty in November 1993, India took a different course and tried to block the treaty text that was negotiated at the Conference on Disarmament. India opposed the treaty on the ground that it does not speak about destruction of existing nuclear stockpiles. The treaty also does not contain any time bound destruction programme. So, according to this treaty, disarmament of the weapons would solely depend on the attitude of nuclear weapons states.

Indian non-acceptance of the CTBT made it impossible for the treaty to be presented as a consensus document by the CD to the UN General Assembly. The CTBT led to a great debate in India in 1995-1996. Most of the security experts voted against the treaty except two, Praful Bidwai and Achin Vanaiak, and have alleged that the outcome of the debate was a “terrible distortion of the very terms of discourse on the CTBT issue.”²³ Again according to C. Raja Mohan the CTBT is, “designed to preserve the hegemony of the nuclear weapons powers,” “put a cap on India’s nuclear capability,” override “India’s disarmament and security concerns,” and subject it to the “worst form of political blackmail.”²⁴ In 1996 India was almost alone in opposing the CTBT. The Indian objection centred around two issues: (a) the proposed treaty was not linked to any time bound frame, which makes it an instrument of non-proliferation but not of disarmament. (b) It allowed laboratory type tests or sub-critical tests, which mean that the five critical powers would be free to continue building their arsenals. Specifically, New Delhi felt that the CTBT was insufficient a commitment from the nuclear weapons states under declared deadlines. It saw this as a discriminatory replication of the imbalance inherent in the NPT regime, in which nuclear weapons states are weakly obligated to disarm and non-nuclear weapons states are strongly obligated to remain non-nuclear. The lack of commitments by the nuclear weapons states to eliminate their nuclear weapons under a declared time frame also compelled India to oppose Article XIV of the NPT, which stipulates the CTBT’s entry into force after 44 “Annexure 2” countries sign and ratify it.

Another obvious crux of India’s argument against the CTBT was the deteriorating security conditions of South Asia. By signing the CTBT, India would have foregone the right to test any nuclear devices, yet its primary adversary would have retained the power to develop its arsenal through simulation. The other adversary that is Pakistan is a prime ally of China. It was feared that China can help Pakistan through delicate technologies through which Pakistan can test its devices through computer simulation only. Pointing to these things an Indian representative told the UN General Assembly in September 9, 1995: “... nuclear weapon states have agreed to a CTBT only after acquiring the know-how to develop and refine their arsenals without the need for tests ... Developing new warheads or refining existing ones after [the] CTBT is in place, using innovative technologies, would be ... contrary to the spirit of [the] CTBT.”²⁵

Following the 1998 tests, the international community, especially the United States, has continuously tried to convince India to sign the treaty. But from India’s point of view the following points need to be highlighted:

- India has already declared a moratorium on further testing after the 1998 tests.
- “No First Use” of nuclear weapons has also been affirmed.
- Undertaking not to export nuclear weapons or nuclear weapons related materials to any other countries has been reiterated, unlike another nuclear weapon country, which says something and does something else.

The debate regarding CTBT once again came up in 1998-1999. In one of the parliamentary debates on May 27, 1998, Prime Minister, Atal Bihari Vajpayee, presented a paper, “Evolution of India’s Nuclear Policy,” elaborating India’s future approach to the CTBT and nuclear testing: “Subsequent to the tests [the] Government has already stated that India will now observe a voluntary moratorium and refrain from conducting underground nuclear test explosions. It has also indicated willingness to move towards a de jure formalisation of this declaration. The basic obligation[s] of the CTBT are thus met; to refrain from undertaking nuclear test explosions. This voluntary declaration is intended to convey to the international community the seriousness[s] of our intent for meaningful engagement. Subsequent decisions will be taken after assuring ourselves of the security needs of the country.”²⁶ During the second debate in Parliament, on December 15, 1998, Vajpayee stated: “India is now engaged in discussions with our key interlocutors on a range of issues including the CTBT. We are prepared to bring these discussions to a successful conclusion so that the entry into force of the CTBT is not delayed beyond September, 1999. We expect that other countries ... will also adhere to this Treaty without condition.”²⁷ At this time a possible deal was being finalised where India would sign the CTBT but not ratify it. In exchange the United States would also acknowledge India’s possession of a minimal nuclear deterrent. Also the sanctions on India would be removed. But the scenario dramatically changed when on October 13, 1999 the US Senate voted against ratification of the CTBT. It became absolutely clear that the United States itself was in doubt regarding the consequences of ratification. Indian Ministry of External Affairs reiterated India’s position on the CTBT as stated by Vajpayee in December 1998, adding: “The situation regarding ratification of the CTBT, as well as the debate in the US Senate, clearly indicates that the CTBT is not a simple, uncomplicated issue. Among other things, it requires building a national consensus in the countries concerned, including India.”²⁸ Naturally there came up a question that is it really so urgent to settle down on CTBT when the US Administration itself was struggling to get it ratified.

The future of CTBT actually lies in the hands of the United States. Unless and until America ratifies it, the other nuclear weapons states will not ratify it, especially China. In a chain reaction India would also not deter from its decision of not signing if the previous two refrain from ratifying it. If US President Barack Obama were to succeed in his stated objective of achieving ratification of the CTBT, then many observers believe that China would follow suit. If that were to happen, then India's policy would come under renewed international pressure. But it is unlikely to happen, as a treaty rejected by the Senate will not be re-elected unless there are some amendments. Also developments in China and Pakistan will have an important bearing on the debate in India. There are no doubts that China and Pakistan are the most determining factors in India's nuclear policy. India will watch closely for signs that these countries are continuing to modernise their arsenals and for evidence of technical collaboration in nuclear weapons-related fields.

Pakistan's basic concerns relating to the CTBT was that the treaty should not put it at a disadvantage vis-à-vis India. Pakistan did not oppose the CTBT at the Conference on Disarmament in Geneva. In 1996, Pakistan voted in favour of the treaty after it was brought before the United Nations to bypass the Indian veto. However, Pakistan feared that India harboured plans to conduct additional nuclear tests. Since an Indian test programme would have forced Islamabad to follow suit, Pakistan declined to accede to the CTBT unless India did the same.²⁹

Given such a scenario, it would be best for India not to commit itself to the CTBT, as this will lead India to a standstill position from where no developments can be done regarding nuclear technology. Also India's neighbours are not reliable; they have repeatedly broken previous non-proliferation rules, so it can not be assured that CTBT will be a sure success.

The nuclear powers are very likely to continue demanding India's unconditional adherence to the non-proliferation regime. But the answer in this case is an absolute no. Until the world community itself sincerely follows the path of disarmament, how can it expect the rising powers to submit themselves unconditionally. The big powers need to take into account the strategic interests of other nations also. India is a developing economy with a high growth rate and this has helped India to keep its own commitment of not signing the discriminatory treaties. In 1974, India was affected by the sanctions imposed by the world community and in the later case, that is, in 1998, sanctions did not affect India in a huge manner. The diplomacy of economic sanctions seemed more or less useless, at least for India, as India itself was growing at a fast rate.

After 1998 it seemed that Indian position on NPT and CTBT had come a full circle, and India became increasingly more confident about its position in the international community.

Notes

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12. William Epstein, *The Last Chance: Nuclear Proliferation and Arms Control* (New York: The Free Press, 1976), p. 285.
13. See T. V. Paul, "Influence Through Arms Transfer: Lessons from the US-Pakistani Relationship," *Asian Survey*, vol. 32 (December 1992), pp. 1078-92.
14. IDSA Comment, "Pakistan against signing the NPT as a non-nuclear weapons state," by Ch. Viyyanna Sastry. http://www.idsa.in/idsacomments/PakistanagainstsigningtheNPTasanon-nuclearweaponsstate_cvsastry_080310.
15. Former Director of Central Intelligence, George Tenet, wrote in his memoirs that the United States "received fragmentary information from an intelligence service" that in 1998 Osama bin Laden had "sent emissaries to establish contact" with the Khan network. George Tenet and Bill Harlow, *At the Center of the Storm: My Years at the CIA* (HarperCollins: New York, 2007), p. 261; David Albright, *Peddling Peril: How the*

- Secret Nuclear Trade Arms America's Enemies*, The Institute of Science and International Security, 2010.
16. David Albright, *ibid.*
 17. Albright, *ibid.* According to a 2005 report by the Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, Al Qaeda had established contact with Pakistani scientists who discussed development of nuclear devices that would require hard-to-obtain materials like uranium to create a nuclear explosion. http://www.fas.org/irp/offdocs/wmd_chapter3.pdf.
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5. INDIA'S BARGAINING POWER AND THE NUCLEAR EXPORT CONTROL REGIME

The joint statement released in Delhi, India, on November 8, 2010 by President Barack Obama and Prime Minister Manmohan Singh stated that “the United States intends to support India’s full membership in the four multilateral export control regimes. These are the Nuclear Suppliers Group; the Missile Technology Control Regime (MTCR); the Australia Group (which controls chemical weapons and their precursors); and the Wassenaar Arrangement (which controls armaments trade) in a phased manner, and to consult with regime members to encourage the evolution of regime membership criteria, consistent with maintaining the core principles of these regimes, as the Government of India takes steps towards the full adoption of the regimes’ export control requirements to reflect its prospective membership, with both processes moving forward together. In the view of the United States, India should qualify for membership in the Australia Group and the Wassenaar Arrangement according to existing requirements once it imposes export controls over all items on these regimes’ control lists.”¹ The joint statement clearly shows the United States’ increasing concern about India. There is no denying the fact that India’s relations with the United States have entered a new phase in the present era. In fact, a decade before no one could have imagined that the United States would be so keen to develop very close ties and a strategic partnership with India.

Over the past two decades, US policy towards South Asia had focused on non-proliferation, in which India plays the greatest role. Washington and New Delhi entered into a prolonged high-level dialogue after India’s 1998 nuclear tests. The United States was represented by its deputy Secretary of State, Strobe Talbott, and his Indian counterpart was Jaswant Singh. Though very slowly and after a lot of discussions and dialogues, Washington gradually accepted New Delhi’s nuclear programmes but also warned to stay within acceptable limits. The actual reason behind the dialogues was the United States’ intention to include India into the discriminatory treaties. But India too maintained its

position by not submitting to the discriminatory treaties like NPT, CTBT and the FMCT.

Fissile Material Control Treaty: India's Viewpoint

As far back as 1946, the United Nations Atomic Energy Agency's report to the Security Council recommended prohibiting national manufacture and possession of fissile materials. A decade later, in 1957, the General Assembly adopted a resolution to ban their production for weapons. In 1993, the UN General Assembly called for the negotiation of a treaty. The Conference on Disarmament in Geneva (CD) then agreed on a negotiating mandate. Although the content and structure of the proposed FMCT are yet to take shape, its aim seems clear. The treaty seeks to establish a non-discriminatory, multilateral and verifiable regime banning the production of fissile material for military purposes. Hence this treaty will put a set of commitments on the part of its member states:

- To restrain the nuclear weapon states from manufacturing highly enriched uranium (HEU) or separating plutonium for either the construction of nuclear weapons or research and development in that field.
- To stop the nuclear weapons states from assisting other states in this regard.
- To accept international verification pursuant to the FMCT to provide assurance that fissile material is being produced only for non-proscribed purposes.

So when the FMCT finally evolves it can be hoped that it will be seen as a formidable barrier against increase of nuclear arsenal. An FMCT based on these undertakings alone would indicate a substantial step towards the ultimate goal of nuclear disarmament. It is assumed that FMCT will focus on future production. But it will be more useful if it takes into account the existing stocks of fissile material at the time of the FMCT's entry into force. Many countries, particularly the non-weapon NPT countries, feel that without verification the treaty is really pointless. A lot of comprehensive verification is already going on in majority of these countries, as part of the NPT safeguards agreements, whereas it is not going on for the weapons countries. The FMCT is not just a treaty between weapon states alone but it includes all the countries. Many non-weapon countries participating in the Geneva discussions want verification because they feel that the nuclear powers are imposing restrictions on them while there would be no checks on the nuclear weapons states. So there are a large number of non-powerful nations who want verification. Moreover, many countries are of the

opinion that the treaty would be toothless without verification being included. The US objected to verification until recently and it submitted a draft to the CD which had no verification; however, President Obama has now changed the US position. He has explicitly called for a verifiable treaty in the draft. This is a big change and it is what has got Geneva excited; the negotiation may begin soon, although it is still a long way ahead.

To conclude the FMCT in a successful manner, it is important for the member states to define three key aspects of the treaty in the CD, firstly, a definition of the term “fissile material,” secondly the cut-off level, and most importantly the scope of the verification procedure. Unfortunately these are also the areas where there are disagreements between the member states as evident from the widely varying texts submitted by some of the member states to the CD in 2006.

Defining “Fissile Material”

The Shannon Mandate² does not make any attempt to define fissile material. International Panel on Fissile Material defines fissile material as materials that can sustain explosive fission chain reaction. According to the draft prepared by the international panel on fissile materials on September 2, 2009, the definition is as follows:³

- Plutonium of any isotopic composition except plutonium that contains 80 per cent or more plutonium-238.
- Uranium containing uranium-235 and/or uranium-233 in a weighted concentration equivalent to or greater than 20 per cent uranium-235.
- Any other fissile material suitable for the manufacture of nuclear weapons as agreed to in a protocol to this Treaty.
- Material containing any combination of the foregoing.⁴

The technical issues do not end there. The definition of fissile material is closely linked to the definition of production. According to the draft prepared by the international panel on fissile materials on September 2, 2009, the definition is as follows:⁵

“To produce fissile material” means:

- To separate fissile materials from irradiated nuclear material through reprocessing or any other process.
- To increase the weighted concentration of uranium-235 and uranium-233 of any mixture of uranium isotopes to a level equivalent to or greater than

20 per cent.

- To increase the fraction of plutonium-239 in plutonium by any isotopic separation process.

Defining fissile material and what it means to produce such material leads to a third fundamental issue: that of the definition of what constitutes a “production facility.” According to the draft prepared by the international panel on fissile materials on September 2, 2009, the definition is as follows: A “production facility” means any facility capable of producing more than [one-tenth of] a significant quantity of fissile material per year.

There is a wide range of debate regarding the definition of “fissile material.” The definition favoured by the United States is that of “direct use material,” as defined by the International Atomic Energy Agency. The United States prefers a more narrow definition of fissile material that accounts for “legitimate civilian and military uses for fissile materials other than nuclear weapons or nuclear explosive devices.” According to US officials broadening the scope of an FMCT beyond direct use material would increase verification costs without significantly increasing the effectiveness of the treaty.⁶ Other countries would like fissile material to be more broadly defined than just HEU and plutonium, so that it would encompass materials with nuclear utility available to wealthier nations, such as Americium and Neptunium,⁷ which are not considered under the proposed definition for direct use fissile material.

The Cut-off Debate

The very name of the treaty—a fissile material *cut-off treaty*—has led to intense debate about the most basic elements of its contents evident in its title. In 1995, the apparent consensus on negotiating the FMCT had broken down on the cutoff issue. Today, the largest stockpiles of fissile material are owned by the United States and Russia.⁸ These states along with the UK and Japan have maintained that the proposed treaty should have a future cut-off date and should not touch the existing stockpiles. China too has adopted this position, which is fiercely opposed by the Non-Aligned Movement (NAM) countries. As one analyst has suggested, “getting from today’s negotiations to tomorrow’s treaty will demand that the negotiating parties define what is meant by ‘cut-off.’”⁹

The NAM countries as well as some European states have been arguing for a cut-off level that includes material already produced and stockpiled. According to them, accounting for the past production of fissile material is an

important component of nuclear disarmament. Therefore, the FMCT should include present stockpile also.

The Verifiability Debate

If the FMCT comes into force it will be a necessarily intrusive treaty that will require the compliance and cooperation of signatory states. It will also have to be affordable, and must be both transparent and non-discriminatory. Discrepancies exist within the scope of verification for an FMCT, with some states (mostly those already possessing nuclear weapons) favouring a limited safeguards system to cover only future highly enriched uranium production and plutonium separation facilities, and others (mostly those with no nuclear weapons or programmes) advocating a more equitable system of comprehensive verification throughout the nuclear fuel cycle to put all member states on the same level. And it will have to be effectively verifiable. Under the original negotiating plan—the so-called “Shannon Mandate” adopted in 1995—the CD was committed to seek a “non-discriminatory, multilateral and internationally and effectively verifiable” FMCT. The Bush Administration concluded that such “effective verification” was unachievable, and in May 2006 opted instead to pursue an FMCT without any specific requirement for verification.

Some of the Non-Nuclear Weapons States (NNWS) consider that the verification regime under the FMCT should not be discriminatory as it is in the NPT. Under the NPT, the NNWS are party to comprehensive safeguards, including extensive and routine inspections and other monitoring by the IAEA on all of their peaceful nuclear activities. In contrast, the NWS are not legally obligated to accept such international safeguards. Their compliance is voluntary. From here it is clear that the NNWS view the matter of verification as a means to do away with the discriminatory treatment specially created for them..

The FMCT's verification dilemma seems to continue further because the five nuclear weapons states—China, the United States, the United Kingdom, France, and the Russian Federation—want that the FMCT should not hamper their individual strategic interests, as well as maintain the broader security of the international system. Other states are of the opinion that a verifiable FMCT will effectively control the spread of nuclear materials by enhancing the proportion of weapons-usable material under international safeguards, strengthen nuclear export control, and reduce the perceived discrimination of the present NPT regime by some states. Moreover, many states argue that one of the greatest benefits that would come as a result of the adoption of an FMCT with a strong

verification mechanism is that terrorist acquisition of fissile material would be significantly harder.

India's Role in FMCT

India's official remark is that it supports the FMCT. However India has some issues with a couple of points. Firstly the FMCT should be a "cut-off" treaty, with restrictions on future production and not on existing stock-piles. India's decision is dictated by its perception of its strategic requirements. Before signing on to an FMCT, India has to persuade itself that its security interests will not be jeopardised by doing so. The second condition that India posed is that the treaty be placed in the wider context of nuclear disarmament. That it should be seen not as an end in itself but must be a real road to NWF. Mr. Atal Bihari Vajpayee commented "in good faith in order to ensure a treaty that is non-discriminatory and meets India's security imperatives."¹⁰

India has for many years supported the evolution of some form of a fissile material control regime actively during certain periods. India co-sponsored United Nations General Assembly resolution 48/75L, in 1993, which contained the mandate to negotiate an FMCT. This support was reiterated by India after the Conference on Disarmament (CD) adopted a negotiating mandate in 1995,¹¹ and in 1998, following the establishment of a negotiating committee. As part of the Indo-US Agreement (known commonly as the Indo-US nuclear deal) announced in July 2005, India also agreed on "working with the United States for the conclusion of a multilateral Fissile Material Cut-off Treaty."¹²

It should be understood that India has an ambitious and responsible nuclear power programme. At the same time it is in the process of building a minimum credible deterrent. The FMCT will obviously affect both these things, if it is to be accepted with the present draft. The main crux of FMCT is that unlike the CTBT that basically involves only curtailing weapons-related activities, the latter deals with fissile materials that can be subjected to dual use. So the FMCT can easily be a barrier for use of nuclear power for peaceful uses also. A truth that cannot be underestimated is that American push has been one of the primary motives behind the FMCT. The US is well aware of the bomb making potential of not only India, Pakistan and Israel but also of other NNWS who had once evinced interest in nuclear weapons (Argentina, Brazil, and South Africa). According to estimates published in the Rand report, these seven countries combined were believed to have enough sensitive nuclear material to manufacture 230 bombs per year. The report further states that the treaty "is aimed particularly at

India, Pakistan and Israel, which are undeclared nuclear weapons states and are unlikely to join the NPT.”¹³

The main argument not to adhere to the FMCT was the potential restriction of India's sovereignty, which was considered unacceptable per se. This motive was expressed by C. Raja Mohan:

“The so-called ‘cutoff treaty,’ the negotiations on which are expected to begin soon in Geneva, will in effect put a cap on India's nuclear programme for the first time since it was initiated about five decades ago. It will be the most onerous agreement on arms control that India has ever entered into ending the production of unsafeguarded plutonium that is at the heart of India's nuclear weapon option and will impose international control on its civilian nuclear programme. For the first time since India launched itself on the course of nuclear autonomy—a policy laid down by Jawaharlal Nehru and the father of Indian nuclear programme, Homi Bhabha—New Delhi has been willing to negotiate active constraints on its nuclear programme. Two generations of atomic scientists have overcome great odds to sustain and nurture India's nuclear autonomy and every single Indian Government since Independence has preserved it despite unremitting international pressures. Given the gravity of the negotiations India is entering into, it is only proper for Parliament and the people at large to debate the implications of the cut-off treaty, and lay down clear markers.”¹⁴

Through official statements, India has taken a position that the proposed treaty should incorporate a verification mechanism in order to provide the assurance that all states are complying with their obligations. The comprehensive verification regime (which will routinely inspect even the peaceful nuclear fuel cycle) that has been demanded by many of the member states in the CD, India feels would be too intrusive. In any case, as and when negotiations on FMCT start, India should press for non-discriminatory and a strong verification system because even if a treaty is signed, a weak verification regime could make it worthless.

Pakistan has also been an active participant in the debates on the proposed Fissile Material Cut-off Treaty for many years. Pakistan sees the FMCT as a technique to curtail India's fissile material. Pakistan has insisted that any FMCT should do more than simply ban further production of fissile materials for weapons. It seeks a treaty that will cover existing stocks, require verified declarations and

monitoring of such stocks, and a schedule for the transfer of existing military stockpiles to civilian use with a view to equalising unsafeguarded stocks “at the lowest level possible.” Pakistan refers to a Fissile Material Treaty (FMT) rather than a Fissile Material Cut-off Treaty as a way to emphasise the importance of stocks. Pakistan argues that “the proposed FMT should also deal with the issue of past production of fissile material and, through their progressive and balanced reduction, promote the goal of nuclear disarmament. The treaty must therefore address the question of production—past, present and future—in its entirety at both regional and global levels.”¹⁵ It has been argued that “existing stockpiles, unless accounted for and monitored, could be used for the development of new and most sophisticated nuclear weapons.”¹⁶

From the issues discussed above it is clear that the negotiations on FMCT are going to be a complicated affair. There are divergent viewpoints arising from different countries on various accounts according to their advantage. Such a scenario really does not evoke a bright future for disarmament. The treaty would also obviously “cap” India’s nuclear weapons capabilities through international treaty obligations. We should accept this only if there is marked movement toward nuclear disarmament and with a clear understanding that in the interim, India would receive full access to dual use (especially nuclear power related) trade and technology.

India and the IAEA Safeguard Regime

As part of the NPT’s grand bargain, non-nuclear weapons states were assured that the treaty would not restrict their right to develop peaceful applications of nuclear power. They were further promised active cooperation and technical assistance in the nuclear field.¹⁷ Article III of the NPT creates a legal obligation for parties to conclude arrangements with the IAEA for the purpose of compliance verification. The article compels each state party to: “accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency [...] for the exclusive purpose of verification of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear devices [...] The safeguards required by this article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction or carried out under its control anywhere.”¹⁸

The International Atomic Energy Agency (IAEA) is a special component of the regime. It is an international organisation that seeks to promote the peaceful

use of nuclear energy and to inhibit its use for military purpose. It was established as an independent body associated with the United Nations (UN) through an international treaty (the IAEA statute). The IAEA reports to both the General Assembly and Security Council. India has played a leading role in the Agency since its inception. Homi Bhabha was the President of the First “International Conference on the Peaceful Uses of Atomic Energy” organised at Geneva. India was one of the 12 founder-members who drafted the final version of the Statute of the Agency. The IAEA was set up with the dual tasks of promoting nuclear technology in development and restricting its military uses. For the NPT signatory states it is mandatory to define what should be considered nuclear material and equipment, leading to the creation of the Zangger Committee. The Zangger Committee developed what is called a “trigger list” of items that should be subject to IAEA safeguards under the NPT. The Committee and its trigger list still exist and the list has been frequently updated. The NPT review conferences in 1995 and 2000 refer to the Zangger list, which enjoys broad acceptance by NPT parties.

After India's 1974 test from a Canadian built reactor, there was a clear recognition by suppliers of nuclear technology that more had to be done to inhibit the transfer and development of nuclear weapons capability. This led directly to the creation of the Nuclear Suppliers Group (NSG) in 1975, an informal grouping of states producing nuclear technology and materials, and to their agreement on the NSG's first list of export control guidelines in 1978. While the controls of the NPT and Zangger list both require full-scope IAEA safeguards, the NSG guidelines apply further requirements of a more subjective nature, such as being “satisfied that the transfers would not contribute to the proliferation of nuclear weapons or other nuclear explosive devices or be diverted to acts of nuclear terrorism.” The NSG Guidelines were strengthened in 1992 by the addition of a list of dual-use technologies and more stringent requirements. The IAEA also strengthened its safeguard system in 1997.

India rejects the NPT's export controls based on the controls' distinction between the requirements for NWS and NNWS. It argues that such a distinction strengthens the discriminatory nature of the treaty. India has not adopted a comprehensive safeguards agreement with the IAEA or an Additional Protocol to the agreement because of its unrecognised nuclear status and these NWS-NNWS distinctions. India was also not associated with the NSG till recently as India was neither a party to the NPT, nor had it committed itself to the IAEA full-scope agreement.¹⁹ Despite its objections, India clearly recognises

the importance of export controls as a tool in preventing proliferation. It has independently developed a unilateral set of controls to regulate its exports that have evolved and strengthened over the past four decades. Its controls are founded on six laws passed since 1962, the most recent being the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act of June 2005.²⁰

While export control systems implemented independently by individual states can have a significant impact on preventing proliferation, the importance of compliance by each exporting state highlights the need for a universal, consistent, verifiable, and enforceable system of export controls. India's participation is required to reach this goal. The main indicator of effectiveness, however, is its proliferation record, and its record speaks clearly: there have been no incidents of proliferation of nuclear materials or technology. India arguably has an even better record than several of the recognised NWS. And India was awarded an exception for its long-term self-commitment to non-proliferation. The exception was the Indo-US civilian nuclear cooperation agreement between 2005 and 2008.

Nuclear cooperation has become the defining feature of evolving Indo-US relations. It marks the start of a new era between these two democracies. Until now, the US had viewed a nuclear weapons capable India as an outcast to be chastised for "illegal" possession of this WMD. It was also to be kept outside the system of regulated nuclear commerce until it accepted full-scope safeguards on its nuclear facilities. However, in a sharp reversal of this approach in 2005, President Bush offered the promise of a constructive nuclear engagement with India. In this volte-face was implicit the acknowledgment of India as a rising economic power with substantial energy requirements, and as a "responsible state with advanced nuclear technology." The Indian PM confirmed this in his statement before the Parliament on Civil Nuclear Energy Cooperation with the US: "The existence of our strategic programme is being acknowledged even while we are being invited to become a full partner in international civil nuclear energy cooperation."²¹

The Indo-US civil nuclear deal made way for India to engage with the export control regime in a positive way. A key part of the US-India deal was the agreement that the USA would lead an initiative to request the Nuclear Suppliers Group (NSG) to make an exception for India from its normal rules. The NSG is a non-treaty organisation which limits civil nuclear trade to signatories of the Nuclear Non-Proliferation Treaty (NPT), which India has rejected as unfair

from the start. This US action was conditional on India voluntarily placing its civilian nuclear infrastructure under safeguards.

Under the NPT, member states of the IAEA are divided into two groups: “non-nuclear weapons states” and “nuclear weapons states,” the latter group comprising only China, France, Russia, the UK and the USA. Effectively, the terms of the NPT and the safeguards agreement each country holds with the IAEA allow the weapons states relatively large freedom in nuclear matters. The non-weapons states are much more confined. India’s agreement more closely resembles that of a non-weapons state. It takes the form of an “umbrella” agreement on reporting and inspection procedures for the IAEA to ensure the separation of civil and military nuclear programmes at any number of Indian sites.²² This safeguarding process is essential to bringing India into the mainstream of the global nuclear industry.

India had signed a safeguards agreement with the IAEA under which all nuclear material and equipment transferred to it by the United States as a part of this deal shall be subject to safeguards. The agreement is based on the IAEA’s facility-specific safeguards (INFCIRC 66 Rev. 2).²³ In August 2008, the IAEA’s Board of Governors approved the India-specific safeguards agreement. The IAEA has started implementing the new agreement from 2009, with the aim of bringing fourteen Indian reactors under agency safeguards by 2014. The IAEA currently applies safeguards to six of its fourteen nuclear reactors under previous agreements. IAEA Director General, Mohamed ElBaradei, says the IAEA and India are in dialogue concerning an additional protocol to the draft safeguards agreement. In 2010, US President Barack Obama has certified that the Safeguards Agreement between India and the International Atomic Energy Agency (IAEA) on its civilian nuclear facilities has come into force, which is another step towards full implementation of the India-US atomic deal.

India’s engagement with the IAEA is already in a state of good progress. Discussing on India’s efforts at engaging with the non-proliferation regime, Ranjan Mathai commented that “We have already put 12 out of [the] 14 nuclear reactors under IAEA safeguards. Only two ... reactors are required to be notified by 2014.”²⁴ This new engagement has helped India to end the isolation that started since the Indian Peaceful Nuclear Explosion (PNE) in May 1974. It is an opportunity we must grab with both hands. If India misses this bus, it will prove much more costly than the bus that India failed to board on the First of January 1967.

India and the Export Control Regime

Concerns over a nuclear “black market” have focused international attention on the effectiveness of nuclear export controls. IAEA Director General, Mohamed ElBaradei, has stated that the emergence of a multinational illicit network clearly points out the inadequacy of the present export control system, that international cooperation on export controls lay on informal arrangements that were not only not binding but also limited in membership, and that export control information was not systematically shared with the IAEA. The regime consists of five primary institutions, the Nuclear Suppliers Group, the Zangger Committee, the Australia Group, the Wassenaar Committee and the Missile Technology Control Group. The components of the export control regime are discussed broadly in my first chapter. This part will analyse how India is trying to establish itself in the nuclear world forum by trying to engage the institutions that were once deemed by India as absolutely discriminatory.

The Indo-US civil nuclear deal can be hailed as a precursor for India’s smooth participation in the non-proliferation process. Undoubtedly, India’s long and consistent record of non-proliferation was a firm reason for this deal, but it is the deal which is the head turner for the rest of the international community. In July 2006, the United States Congress allowed US laws to be amended to accommodate the deal with India. Consequently the Nuclear Suppliers Group members in 2008 agreed to grant India a clean waiver from its existing rules, which forbid nuclear trade with a country which has not signed the Nuclear Non-Proliferation Treaty. The NSG’s decision came only with a formal pledge from India that it would not share any sensitive nuclear technology or material with others and will uphold its voluntary moratorium on testing nuclear weapons.

There was a shift in NSG’s guidelines in 2011 that has changed the scenario. This shift will effectively nullify the “clean” waiver India received from the cartel in 2008 as far as the import of enrichment and reprocessing equipment and technology is concerned.²⁵ Though the guidelines have not been made public yet, the draft text makes it clear that the group will exclude countries which are not signatories to the Nuclear Non-proliferation Treaty and which do not have a full-scope safeguards agreement allowing international inspections of all their nuclear facilities. This change will obviously target India, as India qualifies neither of the options, though talks are going on to include India. The US has proposed that adherence to the Nuclear Non-proliferation Treaty (NPT) need not be a “prerequisite” for India’s membership to the Nuclear Suppliers Group (NSG), but a suggestion, or a “factor to be considered.” If this finds

broader acceptance within the NSG, India's entry could become easier. US is trying to shuffle the norms and get India in the circle.²⁶

Regarding the other components of the nuclear export control regime, India is on her path to apply for membership citing India's excellent nuclear behaviour. Ranjan Mathai in his keynote address at the MEA-IDSANational Export Control Seminar on April 18, 2012 said that "... the main purpose and primary objective of India's enhanced and sustained engagement with these regimes is full membership. We will take forward this process of engagement and apply for membership when the necessary preparations have been completed, and the ground has been prepared for India's full membership."²⁷ Talking about the ongoing progress in this field he commented, "This year, we have already completed outreach meetings with the NSG in Vienna on March 1, with the MTCR on January 30, with the Wassenaar Arrangement on March 21, and [we] plan the ... meeting with the Australia Group in the coming weeks."²⁸

India from the very first has maintained a self moratorium on export control. India's export control framework is based on nine legislations and is in line with the highest international standards. In terms of implementation, an inter-ministerial working group, coordinated by the directorate general of foreign trade, administers the SCOMET (Special Chemicals, Organisms, Material, Equipment and Technology) regulations, which outline the procedure, process and factors relating to the licensing of controlled items that are possibly of both civil and military use. India's national enforcement mechanisms cover prevention, detection and penalisation of unauthorised exports. Customs and other enforcement agencies are active participants in these efforts. These activities are coordinated through an inter-agency core group, which meets periodically to review these issues.²⁹

India's Director General of Foreign Trade (DGFT) has blocked export of several sensitive items to some importers in West Asia and Africa, after intelligence agencies found that the end-users had previous records of proliferation. The factors that are taken into account to decide the fate of applications seeking licences for export of SCOMET items include "credentials of end-user, credibility of declarations of end-use of the item or technology, integrity of chain of transmission of item from supplier to end user, and the potential of item or technology, including timing of its export, to contribute to end uses that are not in conformity with the country's national security or foreign policy goals and objectives, objectives of global non-proliferation, or its obligations under treaties to which it is a state party."

The above reports and India's exclusive record in the history of non-proliferation vis-à-vis Pakistan and even some of the nuclear weapons states, clearly argue that India should be given its proper place in the international nuclear community. India is taking utmost care to stop proliferation of fissile materials. Reports are available that the DGFT and Department of Atomic Energy had last year turned down 13 applications seeking licences for export of items on the list of Special Chemicals, Organisms, Materials, Equipment and Technologies or SCOMET. According to the sources, the countries or non-state actors suspected to be proliferators often use innocuous importers based in other countries with impeccable records to dodge international export control regimes and procure sensitive dual-use items clandestinely. These factors together should make a smooth pathway for India's membership in the export control groups.

Notes

1. Joint Statement by President Obama and Prime Minister Manmohan Singh of India, November 8, 2010. <http://www.whitehouse.gov/the-press-office/2010/11/08/joint-statement-president-obama-and-prime-minister-singh-india>.
2. On January 25, 1994, the CD appointed a Special Coordinator, Ambassador Gerald Shannon of Canada, to investigate the views of member-states on the most effective way to negotiate a fissile materials treaty which met the requests of the UN General Assembly. The resulting report, CD/1229, came to be known as the "Shannon Mandate" and proposed that an ad hoc committee be convened to pursue negotiations and settle several of the outstanding issues—including whether existing stocks should be included in the treaty or not.
3. Draft for Discussion Prepared by the International Panel on Fissile Materials, A Fissile Material (Cut-Off) Treaty, A Treaty Banning the Production of Fissile Materials for Nuclear Weapons or Other Nuclear Explosive Devices with article-by-article explanations September 2, 2009, International Panel. p. 11. http://www.fissilematerials.org/ipfm/site_down/fmct-ipfm-sep2009.pdf.
4. See the corresponding definition of "direct use" material in: IAEA Safeguards Glossary, 2001 Edition, International Nuclear Verification Series, no. 3, International Atomic Energy Agency, Vienna, 2002, §4.25.
5. Draft for Discussion Prepared by the International Panel on Fissile Materials, *ibid.*, p. 11, http://www.fissilematerials.org/ipfm/site_down/fmct-ipfm-sep2009.pdf.
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6. CONCLUSION

On April 19, 2012 India entered into the Inter-Continental Ballistic Missile (ICBM) Club after successfully testing Agni-V. The three-stage, 17-metre tall Agni-V, weighing 50 tonnes, is capable of carrying a nuclear warhead of 1.1 tonne. With this new invention India joined an elite missile club of the US, Russia, France and China, which produce Inter-Continental Ballistic Missiles (ICBMs). It is the most formidable missile in the Indian arsenal which covers a range of more than 5,000 km. Manmohan Singh described the event as “another milestone in our quest to add to the credibility of our security and preparedness ...”¹ This incident marks a great achievement for the Indian scientist community. The test has already raised a number of eyebrows because they fear this could again give a fresh start to the nuclear arms race in the region. The fear was actually not a false one, as Pakistan tested a missile just a few days after India’s testing. As the *New York Times* commented that, “Pakistan successfully tested an improved intermediate-range ballistic missile early on Wednesday, according to a statement by the Pakistani military.”² This act of Pakistan has again proved that its nuclear policy is wholly India-centric and the arms race will not be initiated by India but by her adversaries.

The whole history of nuclear non-proliferation has repeatedly shown that the policies adopted by the nuclear weapons states have been one of the most crucial reasons for the regime’s failure. The nuclear weapons states’ inability to disarm their nuclear arsenal has always been a source for other countries to cite a reason for proliferation and arms race. The United States had tested about 1,032 nuclear devices in-between 1945 and 1992, and Russia had tested about 715 nuclear devices.³ These figures are sharp indicators of their actual intention regarding “non-proliferation” and “disarmament.”

In the wake of the nuclear tests in South Asia, the P-5 nations had started making efforts to maintain their monopoly rights. They declared that “India and Pakistan do not have the status of NWS according to the NPT.”⁴ They actually wanted to create immense pressure on India and force her to roll back and be subject to the discriminatory regime created by them. The former nuclear weapons states never wanted to share their monopoly with any other upcoming states.

This thesis examined the chances of India's probable level of integration with the non-proliferation system. India has always been the most obedient member of the non-proliferation regime, carrying the best record of restraining herself, though being surrounded by adversarial neighbours. It is undoubtedly true that the non-proliferation regime is itself in a crisis mode. The regime should be refashioned in a new way to include some more committed, responsible, technologically capable states into the formal circle of the regime. As my hypothesis was that transformations in the regime were largely prompted by its failure to redress existing security challenges, after doing the study I concluded that the current security situation has led to the transformations in the regime. In spite of the numerous bilateral and multilateral treaty agreements, the regime seemed inadequate to stop non-proliferation, vertical as well as horizontal. The NPT review conferences could not stand up to expectation to arrest the spread of the weapon and related technologies. Constraint of resource plagues international efforts to support non-proliferation regimes. For example, the IAEA's budget has remained consistently inadequate. After the 9/11 attacks, a new threat of nuclear terrorism was added to the list. There are instances when non-state actors have tried to acquire nuclear materials. A number of initiatives are taken to thwart nuclear terrorism. Institutions like, the Nuclear Suppliers Group, the Cooperative Threat Reduction Programme, the Proliferation Security Initiative, UN Security Council Resolution 1540 and others are there to keep a watch on the fissile material transactions, but none of them have a strong law to support them. This makes the institutions a voluntary one even after a nation signs it and ratifies it. These are not bound by any treaty, and therefore have no formal mechanism to enforce compliance.

My second hypothesis was that India's intransigence on non-proliferation and its incompatibility with major norms has forced the regime's formal members to think about the system in a new way. This has also been proven true with India's evolving relation with the big powers as a prime factor. My whole study shows that the bargaining power is slowly being shifted from the nuclear weapons states to the aspiring economies. From the beginning we had seen that the United States had kept a grip on the other states regarding the creation of nuclear weapons. She had always used the politics of "Economic Sanctions" to keep the ball in her court. But with India's growing aura, the United States has changed its attitude towards India. The Indo-US civil nuclear agreement is an excellent example of United States' changing attitude. The deal brought significant changes in US law and policy that were possible only because of

India's strong record of preventing its own nuclear materials from being illegally exported or otherwise used for proliferation. This privilege was honoured only on India, and no other allies of United States, like Pakistan.

My last hypothesis was that India is attempting shifts in its approach to the regime with the objective of gaining recognition of its nuclear weapons status, and to gain membership in the regime's key structures. In my opinion it is not wrong for India to ask for the status of a nuclear weapons state. The NPT treaty was formed long back, and it truly needs a thorough revision of its principles. The nuclear review conferences are surely not at all adequate measures for such big changes. This can be said keeping in mind the previous review conferences, which mostly were failures, except a few. According to my analysis the shift of India is completely in keeping with her previous principles. This is proved by India's disapproval of the FMCT and CTBT. India is consistently keeping to the principles of non-proliferation and also trying to improve its technologies but in an absolutely indigenous way. In my opinion, India's demand is logical, and for no reason should India be compared to Pakistan, as Pakistan has an extremely blotchy record of proliferation.

Critics repeatedly complain that the Indo-US accord is in defiance of the NPT and has weakened efforts to strengthen non-proliferation. It is in defiance of the normal course, that is true, but the international community should keep in mind that India has a clean record and will hold to it. In short, India is not undermining the non-proliferation system, rather, the NPT system has been already undermined by its own flaws, and there are countries who, though being a part of NPT, have helped other countries with fissile material and technologies, but the regime is powerless to act against some of them.

India is a growing economy; it has a large market and has huge opportunities for the international community. I believe India should be given its position in the international community, if not by including her in the NPT directly but including her in the export control regime. India was given a waiver in NSG but it was taken off later, when the NSG made it mandatory that all its members should be signatory to the NPT. This was, of course, targeted India. It is sure that India's not joining the NPT will not do anything better for the NPT as it is already badly broken. India has already asked for membership of the export control regime citing her non-proliferation record.

The United States should work on India's membership to the export control regime. As India is already a growing and responsible power it does not really make sense to keep her out only because of some showy rules of the NPT.

India's membership will prove advantageous for the export control regime. It will actually support the fundamental purposes for which the non-proliferation export control groups were established, and such a change would be desirable. India has some of the world's best brains, those who can be used for development of nuclear energy, which will not be possible if India is out of the circle itself. If there is a question why India should be given this special honour, the answer has been repeated a number of times—"the clean non-proliferation record of India."

Notes

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