

**CTBT and Nuclear Disarmament – U.S. and The Indian
Perspectives**

Dissertation submitted to Jawaharlal Nehru University

In partial fulfilment of the requirements

For the award of the degree of

MASTER OF PHILOSOPHY

Sounika Singh

American Studies Division
Centre for American and West European Studies
School of International Studies
Jawaharlal Nehru University
New Delhi – 110067
INDIA, 1999



CENTRE FOR AMERICAN & WEST EUROPEAN STUDIES
SCHOOL OF INTERNATIONAL STUDIES
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI-110067

20 July 1999


Centre for American and West European Studies
School of International Studies

CERTIFICATE

This is to certify that the dissertation entitled, "CTBT AND NUCLEAR DISARMAMENT – U.S. AND THE INDIAN PERSPECTIVES", submitted by Mrs. Sounika Singh in partial fulfillment of the requirements for the award of the degree of Master of Philosophy of the Jawaharlal Nehru University, is a product of the student's own work, carried out by her under my supervision and guidance.

It is hereby certified that this work has not been presented for the award of any other degree or diploma by any university in or outside India and maybe forwarded to the examiners for evaluation.


B. VIVEKANANDAN
(Chairperson)


R.P. KAUSHIK
(Supervisor)

CONTENTS

Preface	:	i-ii
Acknowledgement	:	iii
CHAPTER I	: INTRODUCTION	1-12
CHAPTER II	: GENESIS OF A COMPREHENSIVE TEST BAN TREATY	13-29
CHAPTER III	: US PERSPECTIVE ON CTBT	30-70
CHAPTER IV	: INDIAN PERSPECTIVE ON CTBT	71-110
CHAPTER V	: IS NUCLEAR DISARMAMENT POSSIBLE?	111-125
CHAPTER VI	: CONCLUSION	126-138
BIBLIOGRAPHY		139-147

PREFACE

No century has seen as much human suffering and carnage as the 20th Century. The age of scientific creativity that began in the seventeenth century took an ominous turn when man used his knowledge of science to devise new ways and catastrophic ways to subjugate his fellow beings. The two World Wars saw more men dead than had died in all the previous wars. The most horrific moment came when the destructive force of the atom was used to wipe out the cities of Hiroshima and Nagasaki in the Second World War. Ever since the horrors of modern war, in general and the nuclear weapons in particular, have become apparent, there is an overwhelming desire to see the end of such destructive forces.

This century has also seen the economic integration of the world economy. No country has spared any effort to improve the lot of its people through trade and commerce, and learning from the technological and developmental experiences of other countries. In such an integrated world there is a growing realization that force should not be an arbiter in international disputes.

It is in light of these changes that nuclear weapons have sought to be eliminated. Various regimes have been worked out to curtail the development and proliferation of these weapons. Among the international arms control measures so far agreed or proposed for consideration, constraints on nuclear testing occupy a special place. Nuclear explosions are the most visible manifestations of the arms race. During past three decades, therefore, the pressure of public opinion for the cessation of nuclear testing has been especially strong. This pressure has brought about certain limitations on testing. Important treaties like Limited Test Ban Treaty, Threshold Test Ban Treaty and the Peaceful Nuclear Explosions Treaty have been signed. None of the three nuclear test limitations treaties so far concluded have seriously affected weapons programmes by hindering improvement in nuclear weapons. Nor have these treaties significantly reinforced the non-proliferation regime by rendering the development of nuclear weapon capability more difficult for non-nuclear weapon states. The veracity and the effectiveness of these treaties would not be significant till a system of global security emerges which can take care of diverse security risks faced by various nations.

It is in the light of these facts that the world community is debating a Comprehensive Test Ban Treaty (CTBT). The CTBT proposes to outlaw nuclear testing to curtail the development of advanced nuclear weapons and to initiate steps towards the final elimination of all nuclear weapons. However the CTBT is mired in controversy as states try to leverage the treaty to fulfill their national security and other objectives.

This forms basis of this dissertation which tries to analyse the differences between India and the United States, the two principle actors who have diametrically opposed expectations from such a treaty. It also attempts to provide an insight to the various issues that confront India and the United States regarding the negotiation and implementation of a CTBT.

Methodology used in this study is essentially descriptive and analytical. This work is based on both the primary and secondary sources. The first chapter of the dissertation is titled 'Introduction'. It gives an overview and tries to assess the significance of CTBT. The second chapter traces the genesis of the CTBT and provides a historical survey of negotiations for the cessation and limitation of nuclear testing. The third chapter discusses the US perspective on the CTBT at length. It reflects the US objectives in pursuing a CTBT. The fourth chapter deals with the Indian perspective on the CTBT. It throws a light on India's reservations on the CTBT. The fifth chapter looks into the possibility of nuclear disarmament. It also deals with the prerequisites for nuclear disarmament. The sixth chapter is titled 'Conclusion'. It consists of a summary of the main points of the first five chapters. It reaffirms the significance and importance of the CTBT.

This work provides a comprehensive survey of the India-US dialogue on the CTBT and is an attempt at understanding their national positions on the scope and form of a truly Comprehensive Test Ban Treaty.

ACKNOWLEDGEMENT

No research work can be completed through the efforts of one person. And so it is for this dissertation as well. Now that the last word has been written-as far as my part of the job is concerned-it is time I thanked everyone responsible for its successful completion. Writing an acknowledgement to convey my gratitude to people who have supported this endeavour is extremely difficult. Nonetheless, I express my deepest gratitude to my esteemed supervisor, Prof. (Dr.) R. P. Kaushik for giving me a free hand in every respect-from selecting the topic to naming the chapters. If there at all was a hidden hand, it was used to inspire, encourage and bless this academic endeavour. He has always been a father figure, a permanent reminder that there is no escape from hard work and no shortcut to success.

Prof. (Dr.) Christopher S. Raj and Dr. K. P. Vijaylakshmi's criticisms and insights had earlier improved the quality of my work a great deal. This time too I have tried to live up to a standard of excellence that should satisfy them both.

I express my sincere thanks to husband Viraj for every conceivable support who not only put up with my vagaries but also helped me through the dissertation with cheer and patience.

I would also like to thank my brother Premendra for his consistent morale boosting in my work. But for his unstinted support, especially during the final stages of my work, I would not have been able to complete the task.

It is unbecoming of a daughter and a daughter-in-law to begin measuring the contribution of her parents towards her success and I will refrain from doing so. Instead it is to them that I dedicate this work. I express deep and over whelming gratitude to all of them, who have been steadfast with their faith, love and encouragement in my endeavour and whose support enabled me to reach this stage in my academic commitments.

I would also like to thank my brothers Himanshu, Parag and Sachin who through their mirth and laughter brought the much need relief from a very grueling academic task.

I owe a great deal to all my friends who contributed towards my work by their inspiring interest, suggestions and a long standing willingness to share their knowledge.

I am also grateful to the officials of American Center Library, Institute for Defence Studies and Analysis, Sapru House, Jawaharlal Nehru University Library and British Council Library for providing me both material and information for my research.


Sounika Singh

CHAPTER I

INTRODUCTION

The two big milestones in the development of the nuclear non-proliferation regime between April 1995 and 1998 are the successful extension of the Nuclear Non-Proliferation Treaty (NPT) for an indefinite duration, and the completion of the Comprehensive Test Ban Treaty (CTBT) in September 1996. A Comprehensive nuclear test ban prefigured in a pledge embodied in the 1963 Partial Test Ban Treaty (PTBT), and was repeated as a goal in the NPT preamble. The UN General Assembly's adoption of the CTBT, on September 10, 1996 paved the way for the permanent ban on the nuclear explosive testing to become an integral part of the nuclear non-proliferation regime.

The rationale for the CTBT was that it would constrain the development and qualitative improvement of nuclear weapons, end the development of advanced types of nuclear weapons, contribute to the prevention of nuclear proliferation and aid the process of nuclear disarmament, and strengthen international peace and security.¹ Some opponents doubt if the treaty would really prevent qualitative improvement of existing nuclear arsenal or the development of new weapons design, given the technological capabilities of the establish Nuclear Weapon States (NWS) to experiment without explosive fission testing. Other critics object to the constraints that the treaty might place on the reliability of the US nuclear weapon stockpiles and doubt the verifiability of the treaty in other parts of the globe. Yet others object to the uncertainties posed by complicated Entry into Force (EIF) provisions. However, it is widely recognised that the CTBT will be, once it comes into force, a major advance in restraining the nuclear arms competition and inhibiting nuclear weapons proliferation.

¹ USIS, Fact Sheet, September 11, 1996, p.2, available at <http://www.usia.gov/posts/delhi.html>>

IMPACT OF THE CTBT ON NUCLEAR PROLIFERATION

Noted defense analysts and nuclear experts have examined the impact of a CTBT on vertical and horizontal proliferation.

Horizontal Proliferation: CTBT would not affect the horizontal proliferation of nuclear weapons. Two types of nuclear bombs can be easily developed. These use the following two techniques:

- Gun type technique – These are Uranium-235 fission bombs similar to the one dropped over Hiroshima, and
- Implosion technique – These are plutonium bombs similar to the one exploded on Nagasaki.

Full-scale nuclear explosions are not a pre-requisite for the development of nuclear weapons by states, which have so far not developed them. Nuclear ‘new comer’ States could produce first-generation fission nuclear bombs, with a clandestine programme. Nevertheless, a comprehensive nuclear test ban would be an effective political impediment to horizontal nuclear weapon proliferation, and would complement the non-proliferation regime.

Today a nuclear test is no longer essential to demonstrate nuclear capability. South Africa, the first self-declared ex-nuclear Weapons State, claims that it never tested its devices. The case of Israel, generally accepted as an undeclared NWS, suggests that even without testing it may be possible to manufacture an arsenal of relatively sophisticated nuclear warheads.²

Vertical Proliferation: For many years, the ‘progress’ that has taken place in nuclear arsenal has been mainly in field of means of delivery of warheads (missiles of steadily increasing accuracy), the introduction of MIR ved (multiple independently targetable re-entry vehicle) warheads, cruise missiles and stealth technology (to make bombers and cruise missile invisible to hostile radar), and the platform from which missiles are fired (i.e. faster, more powerful and less detectable submarines). Many of

² F. Barnaby, The Invisible Bomb: The Nuclear Arms race in the Middle East (London: Tauris & Co., 1989) p.23.

these developments concern the non-nuclear parts of warheads rather than the 'physical package'. Much of the arms race, as it occurred, could have happened even under a CTBT. Still it must be noted that the advanced nuclear weapons development would not have been possible without testing. These relate to the improvements in the design of the warhead (increasing penetration, safety and security, and tailoring of energy effects such as 'enhanced radiation'). The notion of 'Third generation' nuclear weapons hinges on the continuation, if not acceleration, of testing programs.³

Testing is not required for ensuring reliability of nuclear weapon stockpiles. Since 1976 neither the US nor the USSR have conducted tests with yields above the 150 Kiloton (Kt) threshold, as established in the Threshold Test Ban Treaty, even though the vast majority of the warheads in their respective stockpiles have yields above this threshold. US is even considering stockpiling warheads with a yield in excess of 1000 Kt without ever having tested it.⁴

Thus on the issue of vertical proliferation the CTBT would only effect a nation's programme for modernising its nuclear weapons and developing third generation nuclear weapons. Programmes to ensure the confidence in nuclear weapons stockpiles and to add to these stockpiles do not require tests, and so would not be affected by the CTBT.

BACKGROUND TO THE CTBT

The Conference on Disarmament (CD)⁵ in Geneva negotiated the CTBT over a period of two and half years. CD is the 'sole multilateral disarmament negotiating forum

³ Harold Muller, David Fischer and Wolfgang Kotter, Nuclear Non-Proliferation and Global Order (New York: Oxford University Press, 1994), p.11.

⁴ Jozef Goldblat and David Cox, Nuclear Weapon Tests: Prohibition or Limitation? (Oxford: Oxford University Press, 1988) p. 333.

⁵ The members of the CD are Algeria, Australia, Belgium, Brazil, Bulgaria, Canada, China, Cuba, Egypt, Ethiopia, France, Germany, Hungary, India, Indonesia, Iran, Italy, Japan, Kenya, Mexico, Mongolia, Morocco, Myanmar, Netherlands, Nigeria, Pakistan, Peru, Poland, Romania, Russia, Sri Lanka, Sweden, United Kingdom, United States, Venezuela and Zaire. The nuclear test ban, or NTB as it has been known in CD discourse, has long been on CD's agenda, but only now is there a negotiating mandate. Previous CTBT negotiations were conducted in other forums.

of the international community'. Negotiations began in January 1994 and concluded in mid-1996. Ambassador Jaap Ramaker of the Netherlands, Chairman of the Nuclear Tests Ban (NTB) Committee, met the deadline to complete CTBT negotiations in time for signature at the outset of the General Assembly's fifty-first session. The key controversies that had to be resolved concerned the scope of the treaty, whether Peaceful Nuclear Explosions (PNEs) would be permitted, the condition for intrusive verification (e.g., challenge inspections), and the terms of Entry into Force.

One of the most important concerns was about the 'Scope of the Treaty.' 'Scope' relates to what types of nuclear tests are to be banned. Which technical and scientific activities shall be included in the ban, and which shall be permitted? What constitutes a nuclear weapon test? Although the questions seem trivial at first glance, they become complicated if the term 'comprehensive' is to be taken seriously. It was pointed that too narrow a definition would effectively create another Threshold Test Ban Treaty (TTBT), albeit at a much lower yield threshold, and so would fail to achieve some of the aims of the CTBT. There are several types of ambiguous activities - including PNEs, Inertial Confinement Fusion, Hydro-Dynamic Experiments, Hydro-Nuclear Experiments and Computer Simulations - which can serve some of the essential functions of unambiguous nuclear weapon tests, and have been mentioned as potentially within the scope of the CTBT.

A definition of the term 'nuclear weapon test' therefore had to precisely delimit the boundary between allowed and prohibited activities, that is, banning unambiguous nuclear weapon tests and perhaps Hydro-Nuclear Experiments (HNEs) while allowing Hydro-Dynamic Experiments (HDEs), Inertial Confinement Fusion (ICF), Computer Modeling and other processes that release explosive energy or radiation⁶. Over here a problem arose, since efforts to formulate an explicit definition further complicated the negotiations. For this reason, George Bunn and Roland Timerbaen suggested, doing without a definition altogether. "A CTB(T) should simply ban the testing of 'nuclear

explosive devices' without defining them in the treaty, relying instead on the negotiating history of the NPT and the new CTB(T) to defend the coverage of the treaty".⁷

According to the understanding, accepted by the parties to the treaty, the NPT prohibits Non-Nuclear Weapon States (NNWS) from conducting HDEs, HNEs and other preparatory experiments, in so far as they serve the purpose of acquiring nuclear weapons. It was also determined at the Review Conference in 1995 that ICF experiments are not in fact nuclear explosions in the sense intended by the NPT. Bunn and Timerbaen assumed that a similar understanding would develop for the CTBT without it being negotiated explicitly. (There is a danger in this however, that an understanding would emerge in a form which permits certain activities to the NWS that are banned in the NNWS. The consequence would be a weaker CTBT and a more discriminatory regime than what might otherwise be achieved). The spirit of the treaty requires that this boundary between permitted and banned activities be chosen in a way that minimises further proliferation, both horizontal and vertical.

It was argued that a ban on HDE's would have its greatest effect on the threshold states that have not conducted them already, and are not party to the NPT, and would strengthen the NPT by making universal its ban on HDEs on the NNWS party to it. However, such a ban would be costly and difficult to verify. It would have interfered with the NWS's programmes to maintain the reliability of their arsenals and so was unlikely to be included in the treaty⁸. In contrast, a ban on HNEs is simpler to verify, because HNEs

⁶ Annette Schaper, 'The problem of definition: Just what is a nuclear weapon test' in Eric Arnett, ed., Implementing the Comprehensive Test Ban: New Aspects of Definition, Organisation and Verification (New York: Oxford University Press, 1994), p.41.

⁷ Bunn, G. and Timerbaen, R., "Avoiding the Definition Pitfall to a Comprehensive Test Ban", *Arms Control Today*, May 1993, p.15.

⁸ HDEs produce no nuclear yield and are not prohibited by the CTBT. A series of HDEs can help designers to perfect symmetrical and stable compression. In principle, this suffices for the development of a nuclear weapon and guarantees that it will function. HDEs are therefore of enormous relevance to horizontal proliferation. HDEs alone cannot establish the yield of a weapon design, and additional computer programs are needed to calculate the course of the chain reaction together with the release, distribution and diffusion of energy and expansion of the plasma. In fact, an HDE can be used to predict yields precisely enough to develop the primary of a hydrogen bomb. HDEs are not sufficient to produce a finished device and cannot contribute significantly to the development of qualitatively new devices, such as very low-yield or third-generation nuclear weapons. In short, HDEs are relevant for horizontal and, to a limited degree, also for vertical proliferation. HDEs are also used to test the reliability of existing arsenals, especially the

Contd.

require more distinctive facilities than do HDEs and leave unambiguous traces once they have been conducted. HNEs contribute little to stockpile stewardship that cannot be accomplished with HDEs, so banning the HNEs in the CTBT was feasible as an appropriate definition could be formulated⁹.

There is little doubt that PNEs were banned without any additional diplomatic aspect¹⁰ while a ban on computer simulations is simply untenable. Computer modelling is an important aspect of every nuclear weapon program. The broad availability and further development of high performance computers together with programming projects cannot be stopped. Appropriate software combined with data from HDEs or HNEs can replace underground tests completely for the development of fission weapons. It is also most

functioning of the detonators. While there are no civilian uses of HDEs, there are several conventional military application in which high explosives are used in similar ways in comparable amounts, for example, mining and metal working. A ban on HDEs still would not be negotiable because of the significance of these experiments for reliability and safety tests.

⁹ HNEs refer to a system in which the material flow is described by hydrodynamic equation, as in the assembly and compression of fissile material by the use of high explosives accompanied by a limited nuclear chain reaction. HNEs are not permitted under the CTBT. HNEs are most important for horizontal proliferation, since they provide results of fundamental importance for programs, which are in their infancy. In threshold states, HNEs might be quite dangerous because of the increased probability that the yield would be much higher than planned because of the lack of experience and modelling. It is therefore more important to include HNEs in a CTBT for their effect on horizontal proliferation of nuclear weapons to states not party to the NPT. More important uses of HNEs in the nuclear weapon states are in maintaining the expertise of laboratory personnel and training younger designers to maintain the existing stockpile. Reducing the level of design expertise (even while retaining some ability to maintain an effective nuclear stockpile) may, however, be desirable as part of the CTBT. In the US testing and CTBT debate, many test supporters have lobbied consistently for test yield thresholds rather than a comprehensive ban. It can be expected that any attempt to include HNEs in the CTB definition of nuclear weapons testing will run up against considerable resistance from nuclear weapon designers acting as lobbyists in the Nuclear Weapon States. A more complex situation is present in the threshold countries not party to the NPT. India and Pakistan can be expected to try and thwart the effort to include HNEs in the CTBT and Israel (not a member of the CD, but an observer, and therefore unable to block consensus) would be less likely to sign. These countries might depend more on HNEs than those with nuclear weapon testing experience, since they will in future also not be able to match that experience without violating or withdrawing from the treaty. Their nuclear ambitions would be limited by a ban on HNEs. See A. Schaper, "Arms Control at the stage of research and development? The case of inertial confinement fusion", *Science and Global Security*, vol. 2, (1991), p.279.

¹⁰ Technically, peaceful nuclear explosions cannot be distinguished from military explosions. A definition which allows PNEs but not military nuclear explosions leaves a direct and simple means of circumventing the treaty. A CTBT must therefore ban PNEs as well. Fortunately, PNEs are no longer a significant problem, since a consensus has emerged that the civilian benefits are slight in comparison with the costs and environmental disadvantages. At present no states use PNEs. See T. Findlay, Nuclear Dynamite: The Peaceful Nuclear Explosions Fiasco (Sydney: Brassey's Australia, 1990), p.72.

unlikely that existing simulation programs in NWS would be destroyed, and the verification provisions for such a ban would be so intrusive as to be acceptable to most potential signatories.

China continued to insist that PNEs be allowed but given the strong opposition to PNEs by NNWS, China eventually accepted a face- saving formulation proposed by Canada. China also objected to a treaty right that would allow any given party to demand inspections (challenged inspections) of activities on another's territory. A compromise was eventually reached with China, whereby the authorisation for on-site inspection would require at least 30 votes of the treaty's 51- member Executive Council.

Though it is also desirable in principle to mandate international co-operation at all Inertial Confinement Fusion facilities in order to ensure transparency, but it was generally agreed that providing for such a measure in the CTBT would needlessly delay treaty's completion and its entry into force¹¹. That is why the treaty parties decided to incorporate a simpler formulation, which states that the parties agree "not to carry out any nuclear weapon test explosion or any other nuclear explosion." This is the 'zero-yield' formulation which, by not defining a nuclear explosion, seeks to prohibit all nuclear explosions.

Another controversy regarding the test ban focussed on the question of differentiating nuclear tests from earthquakes, and the efficacy of technical means of verification. Gradually, it came to be widely acknowledged that a test ban is more verifiable than other arms control measures. The controversy that adequate verification under the CTBT could not be assured, is now resolved.

The issue that dominated the closing stages of the CTBT negotiations concerns the treaty's EIF provisions. The issue arose because Russia, China and the UK insisted that the three nuclear threshold states – India, Pakistan and Israel must become parties to

¹¹ The development of some new types of nuclear weapon, especially those of the third generation would require such experiments. It would be impossible, however, to design third-generation nuclear weapons on the basis of ICF experiments alone or without nuclear weapons tests. Because there are several civilian uses for ICF, a ban on this technique is unlikely. Since civilian facilities can easily be employed for military purpose, there are no technical parameters from which military uses can be distinguished from their civilian counterparts. Nevertheless it is worth considering whether all ICF experiments should be open to international co-operation, as in the standard in civilian scientific endeavours.

the CTBT. Other nations including the US preferred less demanding EIF provisions in order to facilitate treaty's early entry into force, and to deny any nation or group of nations to hold its implementation hostage. Chairman Ramakar compromise formula listed 44 nuclear capable states (as identified by the IAEA) that were members of the expanded CD (these include five nuclear weapon states and three threshold states) who would have to be party to CTBT for the treaty to enter into force.

Indian Ambassador Arunadhathi Ghosh objected to the EIF provision on June 20, 1996, warning that India was prepared to block the consensus on the treaty text, and thereby prevent its adoption by the CD. She said that India could not accept any language that would affect its sovereign right to decide whether India should or should not accede to the treaty. In the end, India could not block the transference of the treaty from the UN Disarmament Commission to the UN General Assembly in the New York. Its efforts to modify the treaty text or to prevent its adoption by General Assembly also proved fruitless.

Outstanding differences on the EIF provision haven't been resolved. If the treaty does not enter into force within three years of being opened for signature, Ramakar's Formula provides that those states that have already ratified the CTBT could convene a conference to decide by consensus what measures could be undertaken to accelerate the ratification.

RELATIONS BETWEEN INDIA AND THE US

Relations between India and the US have improved considerably since the end of Cold War, but they are still punctuated by controversies over nuclear proliferation. This is of course in stark contrast to the relations, between the two countries underway since India's economic liberalization experiment was launched in 1991. Their strategic relations haven't taken off as was initially expected, given the historically favorable conjunction of economic liberalization and the end of the Cold War. There seemed to be a period of low key and tacit acceptance of the complex relationship, which came under severe strain with the unconditional indefinite extension of the NPT in May 1995, the

Hank-Brown amendment and the Comprehensive Test Ban Treaty (CTBT) negotiations. Although India and the US have argued about the nuclear question for nearly three decades, their difference now look far more irreconcilable in the wake of recent Indian tests.

Non-proliferation has become a major element of the Indo-US dialogue, and tends to complicate the bilateral effort to build a new political relationship in the changed global context. For the United States, preventing the spread of weapons of mass destruction has emerged at the top of the American foreign and national security policy agenda in the 1990s. The Bush administration and the Clinton administration sought to promote a range of diplomatic initiatives, at the bilateral, regional and global levels with the objective of bringing India into the non-proliferation net. For an India that found itself in difficult political and economic circumstances at the end of the Cold War, defending its nuclear option had become an important domestic political issue. India resented most of the American arms control proposals, including regional non-proliferation agenda for the Indian subcontinent.

Seeking to build a broader political and economic relationship, India and the US made an attempt to narrow their nuclear differences and find some common ground on arms control issues. At their Washington meeting in May 1994 President Bill Clinton and Indian Prime Minister P.V. Narasimha Rao issued a joint statement in which they appeared to narrow their nuclear divergence. The US acknowledged the importance of total disarmament as a long-term goal. India saw the necessity of discussing non-proliferation in a regional and global context. Clinton & Rao also pledged that their respective governments would intensify their co-operative efforts to achieve a CTBT and a verifiable ban on the production of fissile materials.

Barely two years later, this approach towards bridging the nuclear divide between India and the United States was in shambles. At the end of the drafting of the CTBT, India declared that it would not sign the treaty and what the US has managed to get is a CTBT that will not come into force without India's signature.

As a result of India's nuclear tests, US is compelled to review its approach towards. Much of the co-operation to promote trade and investment, science and

technology, to work towards protecting the environment, to halt the spread of AIDS and other infectious diseases etc. has been put on hold. Instead, focus anew is on seeking a meaningful Indian commitment to cease further testing. Karl Inderfurth, Assistance Secretary of State for South Asian Affairs observes, “We will need to assess how we will deal with India in accordance with Glenn Amendment and other US laws, which require sanctions far more restrictive than those placed upon Pakistan under the Presser amendment”¹². He adds:

There are reports from the Indian press which cite gleeful claims that India has now become the world’s sixth superpower, a fact which is apparent only to those making the claim. Clearly the world thinks otherwise. We deplore India’s new tests not only because of the breach they represent in global non-proliferation policy, but also because of the harm that it does to India’s reputation and status. The government of India has chosen to separate itself from the responsible consensus of the world community on an issue of critical importance, and we must act accordingly.¹³

US position on Nuclear Testing: Until the end of the Cold War, US was opposed to a CTBT apparently on technical grounds of verifying a test ban. This is, however, not to suggest that the US did not evince any interest on CTBT, but the American Presidents – from Eisenhower to Regan - were influenced by the US military industrial complex and the bureaucracy which were opposed to a test ban. But with President Clinton, US view on CTBT underwent a radical change.¹⁴ Under the Hatfield amendment, Clinton had to decide whether or not to ask Congress to resume testing. On July 3, 1993 he announced, “Test ban can strengthen our efforts world-wide to halt the spread of nuclear technology in weapons, and that the nuclear weapons in the US arsenal are safe and reliable”. While testing offered advantages for safety, reliability and test ban readiness, Clinton stated that, “the price we would pay in conducting those tests now by undercutting own non-

¹² USIS, Official Text, May 14, 1998 p.2 available at <http://www.usia.gov/posts/delhi.html>>

¹³ *ibid.*, p.2.

¹⁴ Jonathan Medalia, “Nuclear Weapon Testing and Negotiation of a Comprehensive Test Ban Treaty”, *CRS Issue Brief*, January 10, 1997. p.2.

proliferation goals and ensuring that other nations would resume testing outweighs these benefits". Therefore, he extended the moratorium through September 1994, and then he extended the moratorium on January 30, 1995. After signing the CTBT President Clinton extended the moratorium indefinitely.

India's position on Nuclear Testing: India after conducting nuclear tests in May 1998 said that the tests have established that India has a proven capability for a weaponised nuclear programme. A key question is whether India will conduct further tests. Several Indian statements support the view that India might not test further. For example, according to a Ministry of External Affairs statement of May 31, "India will observe a voluntary moratorium and refrain from conducting tests."

On the other hand, it's argued that the five tests might not have met technical requirements for weapon development. The historical experience of the original five nuclear weapon states strongly implies that several tests are needed to turn a design into a deployable weapon, and India said it is developing several weapon types. The tests probably have less value than if they had been conducted several months apart, in which case data from one test could have been used to help design a device tested later. Further tests therefore do not seem out of question.

NUCLEAR DISARMAMENT

Unless some drastic decisions are taken worldwide, it appears more than likely that we shall be entering the next millennium without having achieved any commitment to nuclear disarmament. The issue remains a long-term objective on the international agenda but for the time being, the five nuclear weapon states (NWS) are not inclined to renounce their nuclear arsenals and neither are India and Pakistan ready to sign the CTBT.

One could concede that there has been an increase in the qualitative and quantitative arguments in favour of nuclear disarmament. Some military officials and professional strategists, many of whom have been involved with nuclear complexes and strategic thinking in their countries and more particularly in the two NWS (Russia and US), have been lobbying for the attainment of Nuclear Weapon Free World. These

articulations are yet to be incorporated into national policies, but they by themselves signify no small development, considering that during the Cold War the very concept of nuclear disarmament had been discussed as unachievable and idealistic.

Changes in the contemporary political landscape have aided the blossoming of this new set of thinkers who have now begun to highlight the feasibility of nuclear disarmament. Given the present fluidity and uncertainty in international relations and security, nobody is ready, as yet, to hazard a guess on the likely timeframe in which Nuclear Weapon Free World might be attainable.

CHAPTER II

GENESIS OF A COMPREHENSIVE TEST BAN TREATY

The origins of non-proliferation regime can be traced back to the World War II. US non-proliferation initiatives since World War II have generally promoted increased restrictions on nuclear activities worldwide. These initiatives have helped shape the institutionalized global effort to control the spread of nuclear weapons, known as the nuclear non-proliferation regime.

During the war, it was crucial to prevent the enemy from acquiring information, technology and material that would enable it to develop nuclear weapons. Therefore the Manhattan Project was shrouded in strictest secrecy and the uranium resources of the world were thoroughly controlled by the US and its allies. After the war, efforts were made to bring nuclear energy and the spread of nuclear weapons under international control. In an effort to make the United Nations (UN) the world's collective security system, the victorious powers agreed to establish a UN Atomic Energy Commission (AEC).

In the immediate post war period, US non-proliferation policies followed two opposite tracks. The first, expressed in the 1946 Atomic Energy Act (McMohan Act), relied on governmental control and secrecy in the nuclear sector to keep nuclear technology, materials and know-how under US Control. All nuclear collaboration, even with United Kingdom, United States' chief partner in the Manhattan Project, was stopped. This was a policy of unilateral denial. On the domestic front, the legislation nationalised all aspects of US nuclear ventures, from Uranium mining to nuclear fuel production to innocuous production of isotopes for medical use. Internationally, it outlawed US export of technology, nuclear materials and know-how.

A quite different approach to non-proliferation policy, known as Baruch Plan¹, was unveiled in mid 1946. It called for internationalisation of all nuclear activities. All

¹ Baruch Plan is based on the 1946 Acheson-Lelienthal Report, which is still the most far-reaching proposal in non-proliferation and nuclear disarmament ever made.

but the smallest nuclear facilities worldwide would fall under the management, if not the ownership of an International Atomic Development Authority (IADA)². When such a control system had been established, all existing nuclear weapons that is, US atomic bombs would be destroyed. In other words, the US wished to maintain its nuclear monopoly until the global security system was in place. The prospect of what might have become a protracted US monopoly did not appeal to the former Soviet Union and it reversed the sequence of events proposed by the Baruch Plan: destruction of existing weapons should come first, international control later. Faced by this impasse, the UN Atomic Energy Commission could make no progress.

By 1953, evidence of the failure of nuclear secrecy was mounting. Atomic Energy Act of 1946 had served to block US participation in the rapidly developing international nuclear market. After US thermonuclear tests at Marshall Islands in the Pacific Ocean on 1st November 1952, both the former Soviet Union and the UK tested nuclear explosives, and France and The Netherlands were forging ahead on civil nuclear programs.

US fear of increased Soviet influence worldwide through the displacement of US as the chief supplier of nuclear assistance, prompted a re-evaluation of US nuclear policy and led to the creation of 'Atoms for Peace' Program. 'Atoms for Peace' was a major turn of policy as it replaced McMohan Act policy of denial. The new policy, proposed in December 1953, sought to facilitate the dissemination of nuclear energy for peaceful purposes to all interested nations in return for their acceptance of safeguards against military use of fissile materials. In only three years, from 1956 to 1959, the US concluded nuclear cooperation agreements with forty nations; all of them agreed to allow US inspectors to monitor technology provided by the US. Between 1956 and 1962, 'Atoms

² Why the US simultaneously pursued two divergent non-proliferation policies is debated by scholars to this day. Some allege that the nationalistic Atomic Energy Act represented the 'real US policy': to preserve a US nuclear monopoly as long as possible. The Baruch plan they assert was merely a propaganda effort deliberately designed to be rejected by the former Soviet Union. Others described the Atomic Energy Act as internal measure that would protect US nuclear secrets until a viable international nuclear control regime based on Baruch plan could be worked out. Whatever the truth, the opposing impulses of denial and cooperation –presented in their extreme forms in these post war policies- have influenced debate on nuclear non proliferation ever since. See Ian Smart, "The Defective Dream", in Joseph F. Pilat and others, eds., Atoms for Peace: An Analysis after Thirty Years (Boulder: West View Press, 1985), p.76.

for Peace' provided research reactors, training and fissile materials to twenty-six nations including thirteen developing countries³.

Safeguards did not cover all global nuclear transactions in the 1950s however, and the seeds for some of today's proliferation concerns were sown in that decade. Other nations with advanced nuclear technologies, including Canada, France, Great Britain and the former Soviet Union joined US in marketing nuclear wares overseas, frequently without adequate guarantees of their peaceful use⁴. For example, in 1956 Canada sold a research reactor to India, and the US supplied heavy water for the facility, which was not subject to inspections. President Eisenhower's 'Atoms for Peace' address to the UN in December 1953 called for the creation of what has become the most visible international agency in the non-proliferation regime, the International Atomic Energy Agency (IAEA). The IAEA, eventually founded in 1957 as an autonomous agency of the UN family, was charged with the task of assisting the dissemination of nuclear energy for peaceful purposes, promoting nuclear safety, and administering a system of international nuclear safeguards.

Meanwhile, in April 1954, the then Indian Prime Minister, Jawaharlal Nehru called for a total halt to nuclear testing. In an address to the Indian Parliament he proposed an 'immediate standstill' agreement (first initiative of its kind) between the two superpowers until the UN had elaborated a comprehensive disarmament agreement. The UN seized the initiative to highlight the dangers from atmospheric nuclear tests, with a proposal from the Prime Minister Nehru on April 8, 1954, requesting nuclear weapons states to negotiate. "Some sort of what may be called 'Standstill Agreement',⁵ in respect

³ Peter R. Mounfield, *World Nuclear Peace* (London, 1991), p. 41.

⁴ Leonard S. Spector, *A Historical and Technical Introduction to the Proliferation of Nuclear Weapons* (Washington, D.C., 1992), p. 10.

⁵ The other aspect of this proposal included:

- a) Full publicity by those principally concerned in the production of those weapons, and by the United Nations, of the extent of the destructive power and the known effects of the weapons and also adequate indications of the extent of the unknown but the probable effects.
- b) Immediate and continuing private meeting of the sub-committee of the Disarmament Commission to consider the standstill proposal pending decisions of prohibitions and controls etc. to which the Disarmament Commission is asked by the General Assembly to address itself.

Contd.

at least, of these actual explosions, even if arrangements about the discontinuance of production and stockpiling must await more substantial agreements among those principally concerned". The UN General Assembly by resolution 8088 IX November 4, 1954, referred the Indian proposal to the Disarmament Commission. The proposal was made against the backdrop of an American nuclear test of a 15-megaton hydrogen bomb in the Maru Island of Bikini Atoll. The Bravo Shot nuclear test on 1st March 1954, which was part of a series of nuclear tests called 'Operation Castle,' dramatically highlighted the dangers of radioactive fallout⁶. This was the immediate impetus for interest in the issue of a Comprehensive Test ban Treaty (CTBT).⁷

Individual scientists, including prominent members of the Soviet scientific community, all rallied to the test ban issue. At least two important international organizations were created-the Campaign for Nuclear Disarmament (CND) and the Pugwash Conference.

Despite a developing concern about nuclear weapons on the part of President Eisenhower, the US initially resisted international pressures and rejected the idea of a CTBT. Continued development of nuclear weapons was necessary to counter the Soviet threat.

India and other non-nuclear weapon states continued their efforts at the UN to focus the attention of the world on the issue of nuclear tests. India introduced a draft resolution in the First Committee of the UN General Assembly (UNGA), requesting all the states concerned to initiate negotiations to effect suspension of experimental explosions of nuclear and thermo-nuclear weapons, and to report progress to the Disarmament Commission at an early date.

c) Active steps by states and people of the world who, though not directly concerned with the production of these weapons, are very much concerned by the possible use of them, and also at present, with these experiments and their effects.

⁶ . The fall out killed a Japanese Fisherman and set into motion a worldwide political and scientific protest against nuclear testing. The Government of Great Britain, Japan and India for example, issued scales for a test suspension.

⁷ G. Allen Greb, "Survey of Past Nuclear Test Ban Negotiations" in Jozef Goldblat and David Cox eds. Nuclear Weapon Tests: Prohibition or Limitation (Oxford: Oxford University Press, 1988), p.96.

As a result of the pressure building up in the UN, the Soviet Union suggested in 1956 to the 5-member sub-committee of Disarmament Commission to resort to partial measure on disarmament, including immediate suspension of nuclear tests⁸. This was followed by a plethora of proposals for the suspension of nuclear tests as evident from the Anglo-French paper, the US paper and Yugoslavian paper.

Non-Nuclear Weapon States like Canada, Japan, Norway continued with their efforts to have a break-through in reaching an agreement regarding nuclear tests. The first important breakthrough finally came when, after conducting an extensive series of tests, the USSR on 31st March 1958 announced a test suspension if other nuclear powers agreed to follow suit. Most certainly, Soviet leaders had in mind cutting off further advances in US weaponry, but this time they also expressed concern over proliferation or the 'nth country' problem, especially the impact that a test ban agreement might have on preventing Federal Republic of Germany and China from developing nuclear arsenals.

During 1955-58 period, UN became a focal point for internal discussion of a CTBT. In June 1957, the US and the former Soviet Union for the first time debated the major issues of a possible cessation at the London Disarmament Conference, raising such critical points as the separability of a test ban from other arms control measures.

Due to Cold War politics there was hardly any success in the test ban negotiations despite repeated attempts. Most of the controversy regarding the test ban was centered on the question of detection of nuclear test from earthquakes and the technical means of verification. As a result of the correspondence between Khrushchev and Eisenhower in the second quarter of 1958, the USSR and the US agreed to hold a Conference of Experts on Detection of Nuclear Tests. Conference of Experts⁹ (consisting of scientists from the US, USSR, UK, Canada, France and Czechoslovakia, Poland & Romania) met in Geneva in the summer of 1958. They concluded that it was feasible to detect and identify underground nuclear explosions under any potential CTBT regime and evaluated an

⁸ Quoted in T.T. Poulouse, The CTBT and the rise of nuclear nationalism in India (New Delhi: Lancer books, 1996), p.143.

⁹ Conference of Experts was called in the wake of development of long-range rockets dramatically demonstrated in 1957 with launching of Sputnik Satellite. It underlined the vulnerability of both the US and Soviet Union to nuclear attack.

experimental International Seismic Monitoring System (ISMS). Other verification technology examined by Working Group-1 of the Conference included monitoring by airborne radioactivity detection and Electro-Magnetic Pulse (EMP). This Group agreed on a list of 50 primary seismic stations to be included in ISMS. On the basis of the Expert's Conference, Eisenhower stated that US would stop further testing, unless former Soviet Union tested, for a one-year period. UK also released a nearly identical statement and signed on Agreement of Cooperation¹⁰. The Conference on Discontinuance of Nuclear Weapon tests began on schedule in October 1958 with all three nuclear powers present but the parties could not convert the informal moratorium into formal treaty. Internal opposition to a CTBT remained strong within Eisenhower Administration. AEC Chairman Lewis Strauss and E. O. Lawrence of weapon laboratories argued that tests must proceed to develop new weapons. A test cessation, Strauss warned, would be a very fateful step for the US.

The Non-Nuclear Weapon States persisted in their efforts for the suspension of nuclear tests. They moved a seventeen-power draft resolution on October 10, 1958 and later fourteen-power draft resolution on October 15, 1958, calling for the suspension of nuclear weapon tests.

Analysis of new data from underground experiments conducted before the moratorium reinforced the position of CTBT. A new theory about the possible 'decoupling of explosions', that is, muffing of the seismic signal in underground cavities, developed which put severe strains on the informal US-Soviet moratorium¹¹. By the early 1960s, several global developments were creating favorable conditions for completion of arms control and non-proliferation agreements. Environmental hazards mobilized public opinion against nuclear testing. Above all, the Cuban missile crisis drove home the very real possibility of an all-out nuclear exchange.

¹⁰ The 1958 Agreement of cooperation and later 1962 Nassau Agreement cemented the renewed Anglo-American partnership in nuclear weapon research.

¹¹ Jozef Goldblat & David Cox Nuclear Weapon Tests: Prohibition or Limitation (Oxford University Press, 1988), p.99.

At the same time, nuclear club was growing steadily. France conducted its first atomic test in 1960, China in 1964 and India began to insist just after Chinese test, the right to develop nuclear explosives 'for peaceful proposes' and undertook the infrastructure development needed to do so.¹² In this context, several steps were taken to strengthen the non-proliferation regime in the 1960s and a treaty began to take shape. The subsequent development was the conclusion of Partial Test Ban Treaty (PTBT) or Limited Test Ban Treaty (LTBT) signed on 5 August 1963. PTBT banned nuclear tests in the atmosphere, outer space and underwater. The fact that the two super powers had by then already carried out extensive series of tests in the atmosphere and were prepared for testing to be continued underground, reduced the cost of their 'mutual sacrifice'. As Jozef Goldblat of the Stockholm International Peace Research Institute (SIPRI) and David Cox of the Canadian Institute for Peace and Security (CIPS) observe, " ... the PTBT was generally considered to be a transitional agreement, the parties stated their determination to conclude a treaty resulting in the permanent banning of all nuclear test explosions."¹³

The US government's statement of 1982 that it would 'set aside' efforts to negotiate a comprehensive ban on nuclear testing was justifiably regarded by many states as impeding full implementation of the PTBT. Adherence to the PTBT though wide is not universal. France and China did not join it¹⁴. Pakistan is also missing from the list of parties.

The PTBT complicated the development of very high-yield weapons and made impossible full-scale operational testing of weapons in the environments in which they are meant to be used, notably in the atmosphere. However, these restrictions have not prevented the US, the UK and former Soviet Union from satisfying their military requirements. The rate of testing by Soviet Union and the United States increased after the PTBT went into force; over 900 nuclear explosions were carried out by these two

¹² Spector, (note 4), p.16.

¹³ Goldblat & Cox (note 11), p.10.

¹⁴ France argued that the treaty had only limited practical importance; China criticized it as not encompassing general disarmament or a ban on underground test. Both nations eventually gave up atmospheric testing through unilateral statement's of renunciation, France in 1975 and China some ten years later.

countries taken together, from 5 August 1963 to July 1988, that is almost twice as between 1945 and 1963.¹⁵

The determination of the original parties to seek an end to all tests as stated in the PTBT has been used as one of the main arguments in favor of CTBT. As Gary T. Garner observes, "The LTBT was a significant achievement in the history of arms control, but was more effective in stopping the spread of nuclear weapons to non-nuclear weapon states (horizontal proliferation) than it was in slowing the growth of nuclear stockpile in nuclear weapon states (vertical proliferation).¹⁶

Latin American nations took the lead in creating the next important element in the growing non-proliferation regime-The Treaty on Prohibition of Nuclear Weapons in Latin America (commonly known as Treaty of Tlateloco). More or less concurrently, with the Tlateloco negotiations, the US, the Soviet Union and Great Britain began discussions on a global Non-Proliferation Treaty (NPT), which became the backbone of the nuclear non-proliferation regime. The nuclear powers involved in negotiating the NPT sought formal commitments by Non-Nuclear Weapon States not to pursue development of nuclear weapons or to obtain them from other nations, and to safeguard their nuclear material and nuclear exports. Non-Nuclear Weapon States made several demands of their own. Some sought assurances that Nuclear Weapon States would work towards specific disarmament goals. Others wanted 'negative security assurances,' that is, commitments by nuclear nations never to target non-nuclear nations with nuclear weapons. Still others sought assistance in the development of atomic power for peaceful purposes. Industrial non-nuclear nations sought to ensure that the proposed NPT would not give the nuclear nations a competitive advantage in nuclear commerce.

Two bargains were struck to reconcile opposing nuclear position and complete the treaty. First, the treaty was written to affirm the right of any nation to develop nuclear energy for peaceful purposes and it proposes technical assistance to this end. In return, Non-Nuclear Weapon States agreed not to develop nuclear weapons and to accept

¹⁵ Goldblat & Cox (note 11) p. 127.

¹⁶ Gary T. Gardner, Nuclear Proliferation (Boulder: Lynne Rienner Publishers, Inc., 1994) p. 41.

safeguards on their peaceful nuclear activities and on their exports. Second, the treaty requires nuclear powers to move towards disarmament, although it sets no deadlines for reaching specific disarmament objectives.¹⁷

With the non-proliferation, disarmament and other such questions addressed, the NPT was completed in 1968 and entered into force in 1970. Most of the Non-Nuclear Weapon States viewed the treaty as discriminatory and sought to balance in part their renunciation of nuclear weapons with a super power promise to negotiate a CTBT. The super powers rejected such an explicit commitment, but did accept as a compromise Article VI of the NPT, calling upon the parties of the Treaty, to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms at an early date and nuclear disarmament. The non-nuclear weapon nations took this to mean a CTBT, which received specific mention only in the preamble to the NPT. The preamble 'recalled' wording in the 1963 PTBT that expressed the determination of the three original signatories to continue negotiations for the discontinuance of all test explosions of nuclear weapons for all times. Since then, the CTBT has been inextricably tied to the non-proliferation issue in international discussions. The NPT Review Conference of 1975, 1980 and 1985, 1990 and 1995 for example, all gave high priority to a CTBT.

In July 1974, President Nixon and General Secretary, Brezhnev signed a Threshold Test Ban Treaty (TTBT). The scope of obligations under the TTBT is very limited. The US and Soviet Union undertook to prohibit, to prevent and not to carry out any underground nuclear weapon test having a yield which exceeds 150KT. Ratification of TTBT has not taken place because of the opposition in the US to making it formally and legally binding. TTBT has to some extent constrained the development of new high yield warheads but it has hardly contributed to the cessation of nuclear arms race. The 150 KT yield threshold is too high to be really meaningful. The parties do not experience onerous restraint in continuing their nuclear weapon programs. The TTBT was seen by many as a substitute for, rather than a step towards comprehensive treaty. It was criticized in both, the Conference of Disarmament and the United Nations as inadequate. Unlike the

¹⁷ To pressure nuclear powers for compliance in this area, the treaty was not written to be of indefinite duration, it provides that a conference be called in 1995 to examine its extension.

TH-8197

DISS
327.1747073054
Si646 Ct



TH8197



PTBT and other nuclear arms control agreements, it was not welcomed by the UN General Assembly, nor has any international appeal been made for its ratification.

The provisions of the TTBT did not extend to underground nuclear explosions for peaceful purposes. Since such explosions cannot be distinguished, at least from a distance, from explosions serving military ends, the possibility remained that the threshold limitation on weapon tests might be circumvented. The Soviet Union & US decided therefore, to work out a separate agreement, which would contain additional obligations closing this loophole. Peaceful Nuclear Explosion Treaty (PNET) was signed on 28 May 1976.

For many years, Peaceful Nuclear Explosions (PNEs) had been seen as potentially valuable activity for a variety of purposes. In the US, the so-called plowshare program set out to explore possible uses of PNEs for digging canals or for other industrial ends, such as gas stimulation or oil recovery from otherwise uneconomic deposits. By mid 1970s, industrial interest in the use of underground nuclear explosions for non-military purposes had waned in the US and public concern over possible environmental hazards increased. The UK and US wanted a ban on nuclear explosions. The program was terminated shortly after the signing of PNET. By comparison, the Soviet Union pursued an active PNE program. But it was prepared to forgo PNEs if a prohibition on all nuclear explosions was achieved. As early as 1965, GilPatric Committee described PNEs as major potential loopholes in a CTBT.¹⁸

PNET was an indispensable complement to the TTBT; the latter treaty would be deprived of meaning if PNEs were allowed without restrictions. However, the PNET has not increased the very limited arms control value of the TTBT. By unduly emphasizing the importance of civil applications of nuclear explosives, it may even have had a negative impact on the policy of preventing nuclear weapon proliferation in providing respectability to the arguments of those states that seek to develop a nuclear weapon capability under the guise of an interest in peaceful explosions. Any nuclear explosive device ostensibly developed for peaceful purposes is inherently capable also of being

¹⁸ Committee on Nuclear Proliferation, A Report to the President (Washington, D.C.: The White House, January, 1965), p.20.

used as a weapon. Hence, no nuclear explosion could be tolerated under a truly comprehensive ban.

Many CTBT proponents in the US, including Democratic candidate for the presidency Jimmy Carter, criticized the TTBT and PNET for a number of reasons. They claimed that a threshold ban would divert attention from a CTBT, and that the threshold was too high to offer any real restraint on weapon development. The PNET they argued, in effect endorsed PNEs, threatened a CTBT and could provide an excuse for potential proliferants to test nuclear weapons. India in fact labeled its 1974 nuclear weapon test as a Peaceful Nuclear Explosion.

None of the nuclear test limitations so far concluded has seriously affected nuclear weaponry. Nor have these treaties significantly reinforced the nuclear non-proliferation regime by rendering the development of nuclear weapon capability more difficult for Non-Nuclear Weapon States. Especially flawed in this regard are the TTBT and the PNET. The fact that these treaties have remained unratified for more than a decade has weakened confidence in the arms control negotiating process. Full operation of the agreements might have facilitated progress towards a comprehensive test ban agreement.

MOVING TOWARDS A CTBT

In 1976, the Conference of the Committee on Disarmament (CCD) established an Ad Hoc Group of Scientific Experts to consider international cooperative measures to detect and identify seismic events. Since then they have been reporting to the CCD. A Comprehensive Test Ban Treaty figured prominently in the discussions of the Disarmament Commission, the Committee on Disarmament and the UN General Assembly. The report of the Ad Hoc Group of Experts showed that seismological data could be gathered cooperatively and exchanged internationally, to contribute to the verification of a test ban treaty and protocol on peaceful nuclear explosions.¹⁹ The UNGA adopted various Resolutions from 1977 to 1979 for the early conclusion of a

¹⁹ Poulouse (note 8), p.15.

Comprehensive Test Ban Treaty. The trilateral negotiations on a Comprehensive Test Ban Treaty were in progress in 1977 but the progress was very slow due to:

- The question whether the CTBT should be made contingent upon the participation of all nuclear weapon states;
- The control of the conduct of nuclear explosions for peaceful purposes under a ban; and
- Verification techniques for detecting nuclear tests.

On April 21, 1982, the Conference on Disarmament adopted a resolution to set up an Ad Hoc Committee on nuclear test ban. The United States, while welcoming the formation of the Ad Hoc Committee did not resume trilateral negotiations due to the deterioration of international climate.

In 1983, the Committee on Disarmament and later in 1984, the Conference on Disarmament (CD) continued the work on CTBT. UNGA adopted 3 separate resolutions (39/52, 39/53 and 39/60) in 1984. Resolution 39/52 introduced by the Non-Aligned and Neutral countries appealed to the members of the Conference on Disarmament to initiate immediately multilateral negotiations on a CTBT. Resolution 39/53 introduced by Western Powers reaffirmed their conviction that a treaty was urgent and requested the Conference on Disarmament to resume work on CTBT, to establish an international seismic monitoring network and also to investigate other measures to monitor and verify compliance with such a plan. Resolution 39/60 introduced by the Socialist countries urged the Conference on Disarmament to proceed promptly with the negotiations and work out details of a multilateral treaty.

In 1987, the former Soviet Union and US agreed to revise the TTBT and PNET treaties and to move eventually to a test ban on stage-by-stage basis. Attempts to amend PTBT to a comprehensive one at a conference in 1991 ended in a fiasco.²⁰ Also the 1990 NPT Review conference ended without issuing a final declaration.

²⁰ Mexico took the initiative in 1985 to amend the PTBT by recourse to Article II of the treaty, which provides the mechanism for such an amendment. By securing the support of one thirds of the parties to the treaty, the US, UK and USSR, decided to convene an Amendment conference in 1990. Accordingly, the
Contd.

Meanwhile, all nuclear weapon states except China continued to observe test moratorium; the former Soviet Union since 1985 for 18 months and extended again from October 1991. In fact the Soviet Union stopped all nuclear test from 1989, the United States in 1991 and France followed suit. The UK was already maintaining a de facto moratorium. There was a moratorium on nuclear testing at USSR's Novaya Zemlya test site and Yeltsin closed down the test site in 1991. The last test at the Semi Palatisk-21 test range was conducted on 19 October 1989. In August 1991, this site too was closed down.

It was in this background of all these developments that the crafting of the present CTBT took place. 1993 was a landmark year for the CTBT. The US co-sponsored with India and several other states, a resolution on CTBT in the UNGA at the 1993 session. On 10th August 1993 the Conference on Disarmament gave its Ad Hoc Committee the 'mandate to negotiate a comprehensive test ban'.²¹ The negotiations finally began in January 1994. Simultaneously in the General Assembly, a draft resolution on CTBT was submitted by 104 countries and was sponsored by 53 additional countries. The draft was adopted as Resolution 48/70 on December 16, 1993.

On 1 December 1993, on behalf of the Group of 21 (of Non-Aligned Nations) Mexico submitted a working paper on CTBT, which stated:

- (1) The Treaty should define in general terms the prohibition of nuclear tests in all environments and forever. It should avoid a detailed definition of what is a nuclear test. The treaty therefore, should eliminate any possibility of carrying out nuclear tests in any environment and it should be of unlimited duration.
- (2) The CTBT to be developed must be non-discriminatory in character in the sense of providing equal rights and obligations to the states parties to the proposed treaty.

Sweden submitted a Draft Test Ban Treaty to the CD on 6 December 1993.²² Australia similarly submitted a draft structural outline on 9 December 1993. The G-21

conference was held in New York from 7 to 18 January 1991, but failed to secure the requisite number of votes required for the amendment.

²¹ The United Nations Disarmament Yearbook, vol. 18, 1993 (New York, 1994), p. 46.

²² In fact the first Swedish draft on CTBT was in 1983.

also proposed that the CD should try to produce a final text of the CTBT before the convening of the NPT Review and Extension Conference in April-May 1995. However, the CD failed to prepare a text before the NPT Conference though a rolling text was under preparation. There were serious differences at the CD meetings on the treaty's scope, required verification regime, the linkage between nuclear disarmament and CTBT infrastructure to administer its implementation and various other aspects. For instance, under the proposed CTBT, the UK preferred 100 tons, Russia 10 tons, France 200 tons and the United States 500 tons of TNT yield as the threshold initially. It was significant that the US has sought since August 1994, a CTBT to end all nuclear explosions, without thresholds and exceptions.²³

CTBT negotiations were stimulated by the end of the Cold War and even more than that, by the forthcoming NPT Review and Extension Conference. The only way the NWS thought it could mitigate the criticism of the majority of NNWS was by proposing these measures—the CTBT and the Fissile Material Control Treaty (FMCT). Although almost all the technical and political parameters for a CTBT were well known, the first year nevertheless took some time in looking at the issue. The 1994 NTB Committee Report, published in the form of an 18-page summary of the proceeding, was followed by a 95-page appendix of text with alternative proposals and techniques in sequence brackets.

All through the debate each of the NWS had a strategy for protecting its nuclear arsenal from the effects of the CTBT, reflected as bracket language of the rolling text. France & the UK wanted to be able to conduct safety tests 'in exceptional circumstances.' China demanded the PNEs be permitted. The US favored a general scope for the treaty with an exception for very small tests. The US was also pushing for an 'easy exit' clause, whereby a state could elect to 'withdraw from the Treaty at a Conference held ten years after the entry into force'. Russia favored a text that listed prohibited environments but it joined the US, UK and France in wanting to be able to conduct low yield explosions and had earlier on, expressed reservations about completely banning PNEs. Many of the brackets also reflected the interests of non-nuclear states.

²³ UN Disarmament Yearbook, vol. 19, 1994, p. 46.

Germany and Sweden wanted to ban preparation for testing, while Indonesia bracketed the world 'explosion', wanting all nuclear weapon testing to be prohibited, whether explosive or not.²⁴ Thus much of the work of 1995 consisted of clearing up of duplications, redundancies and inconsistencies in the rolling text. In September 1995, the NTB report was submitted.

However, the period 1995 to 1998 was marked by attachment of increased utility to Nuclear weapons. Nuclear weapons did not regain the central role ascribed to them during the Cold War-it was not back to square one-but they began to gain fresh importance in certain political and military contents. As William Walker has observed that there was a renewed attachment to nuclear arms in Russia, where there was increasing awareness of the serious loss of political, economic and military power that had been suffered in the 1990's. NATO expansion gave nuclear weapons fresh prestige in Russian eyes.²⁵

In 1995, Israeli govt. had stated for the first time that it might contemplate abandoning its nuclear deterrent.²⁶ However, Israel became increasingly alarmed by the prospect that Iran (or Iraq) might gain the capacity to attack it with missile armed with biological and chemical warheads. In response to these and other pressures, US government strengthened its commitment to theatre missile defenses (TMD), and began to elevate the role of Nuclear weapons as deterrent against attacks from chemical and biological weapons.

The third arena where attachment to nuclear weapons hardened after 1995 was South Asia. The end of Cold War brought no amelioration. Indo-Pakistan nuclear conflict began too began at the same time, when Prime Minister Narshima Rao had decided to resume testing but deferred it due it International pressure.. Although neither Pakistan nor India deployed Nuclear weapons before the recent testing, a vigorous capability race,

²⁴ Comprehensive Test Ban Treaty: Now or Never, A report of the 1995 Conference of Disarmament negotiation CACRONYM NO. 8, October 1995, pp. 11-12.

²⁵ William Walker, "International nuclear relations after the India and Pakistani Test explosions". *International Affairs* Vol. 74. No. 3 July 1998, p.509.

²⁶ G.M. Termberg, "Middle East Peace and the NPT Extension Decision": *The Non proliferation Review*, vol.4, no.1, Fall 1996, pp. 17-29.

involving missiles, warhead design and fissile material has been under way for many years.

Work proceeded relatively more swiftly in 1996. On January 23, 1996, the first plenary session of the Conference on Disarmament agreed to the establishment of a nuclear test ban treaty. On March 28, the 'outline of a draft Comprehensive Test Ban Treaty' was presented for the delegates to negotiate outstanding issues. On May 28, 1996 exactly a month before the end of the second part of the CD's 1996 session, Ambassador Jaap Ramaker, presented his first draft text for a CTBT. A slightly modified draft was presented on June 28, 1998.

THE LINKAGE BETWEEN THE NPT AND THE CTBT

The debate over the extension of the NPT casts light on the dynamics of CTBT negotiations. The NPT entered into the force in 1970. It divided the world into nuclear 'haves' - the five declared nuclear powers that are also the permanent (P5) members of the UN Security Council and nuclear 'have-nots'. The bargain was that the P5 and others would negotiate in good faith on halting the nuclear arms race soon and achieving nuclear disarmament and also general and complete disarmament. NNWS saw attainment of a CTBT as the touchstone of good faith on these matters. The NPT provided for review every five years; a review in 1995, 25 years after it entered into force determined whether to extend the treaty indefinitely or for one or more fixed periods. The Review and Extension Conference of April, May 1995 extended the treaty indefinitely. This extension was accompanied by certain non-binding measures, including a decision on 'Principles and Objectives' for Nuclear Non-Proliferation and Disarmament, that set forth goals on universality of the NPT, nuclear weapon free zones, and stressed the importance of completing the negotiations on a universal, and an internationally and effectively verifiable Comprehensive Nuclear Test Ban Treaty, no later than 1996.

During the NPT negotiations, the Non-Aligned countries agreed on a new memorandum listing specific proposals for tangible steps to halt the arms race. These

include a ban on nuclear testing²⁷ but ultimately specific steps to gauge progress towards meeting disarmament obligations were not included in the NPT. What ultimately emerged from the negotiations is codified in Article VI. However, Article VI does not mention measures to gauge movement towards these objects.

A ban on nuclear testing has been a litmus test for the NNWS even before the treaty's inception.²⁸ The importance of a CTBT to the NPT was also manifested at the Third 'precom' held in preparation for the 1995 NPT Review and Extension Conference which observed that the conclusion of a CTBT remains one of the highest priority objectives of the international community. A target date was required to be set to conclude the negotiations on CTBT prior to the 1995 NPT Review and Extension Conference. The conclusion of a CTBT it was felt, would decisively benefit the outcome of the NPT conference.

During the NPT conference in 1995, a Study Group of the International Network of Engineers and Scientists Against Proliferation (INESAP) comprising 50 experts from 17 countries had presented a report titled 'Beyond the NPT: A Nuclear Weapon Free World' (NFWW) which outlined the transformation of the traditional non-proliferation regime into an NFWW regime. On the same occasion a statement was signed by more than 200 non-governmental organizations (NGOs) calling for negotiations on Nuclear weapons abolition convention that requires the phased elimination of all nuclear weapons within a time bound framework, with provisions for effective verification and enforcement.

In this Conference, three measures were emphasized as steps towards the final goal of nuclear disarmament. These include the conclusion of CTBT, FMCT and the determined pursuit by the Nuclear Weapon States of systematic and progressive efforts to reduce Nuclear weapons globally with the ultimate goal of eliminating these weapons.²⁹

²⁷ George Bunn and Roland M. Timerbaen, "Nuclear Disarmament: How Much Have The Five Nuclear Weapons Promised in the NPT?" *Lawyers Alliance for World Security*, June 1994, p.6.

²⁸ Maurice A. Mallin, "CTBT and NPT: options for US policy", *The Non Proliferation Review* / Winter 1995, vol.2, no.2, p.2.

²⁹ John Stemson, Darryl Hewlett and Bailey, "1997 and All That Multinational Diplomacy & the Nuclear Non-proliferation Regime", *Contemporary Security Policy*, vol. 17, no.3, December 1993 p.336.

CHAPTER III

US PERSPECTIVE ON CTBT

Since the end of Cold War, the proliferation of weapons of mass destruction has become much more prominent in US national security and foreign policy planning. Revelations about Iraqi, North Korean, South African and Israeli nuclear weapon programs; the possibility of nuclear arms race in South Asia; the multi-dimensional conflict in the Middle East; and the dissolution of the Soviet Union, whose successor states are wrecked by economic and political instability all point to the immediacy of this problem. Adding a dangerous new twist are the recent India and Pakistan's nuclear tests.

Proliferation poses real dangers from the point of view of international security and human welfare. In addition to its global consequences, it poses particular problem for the US. The US will almost certainly retain allies and vital interests overseas that might be threatened by states possessing weapons of mass destruction. Should the US need to defend its interests and principles with military force, whether acting unilaterally or under multilateral auspices, such as those of the United Nations-US armed forces or territory, might become targets for weapons of mass destruction.

As far back as the 1960s, when it sponsored the NPT, the US has recognized that proliferation is global problem and combating it requires high level of international cooperation. It has also exerted unilateral influence, successfully in several cases, to discourage proliferation, it will no doubt continue to do so. Nevertheless, placing priority on non-proliferation will require the further development and enforcement of international norms and behavior supporting that objective.¹ That's why the US places a high priority on achieving a CTBT at the 'earliest possible time.'

A CTBT is the oldest item on the nuclear arms control agenda, one that Congress has debated for decades. Three treaties currently limit testing to underground only, with a maximum force equal to 15,000 tons of TNT. According to the Natural Resources

¹ "Proliferation of weapons of mass destruction: Assessing the Risks", Office of Technology Assessment, United States Congress, p.12.

Defense Council, the US has conducted 1,030 nuclear tests (excluding 24 joint US-UK tests). The FY 1999 request for maintaining the capability to resume testing is \$ 133.2 million, vs. \$ 144.1 million (adjusted) for FY 1998. In 1997 and 1998 the US conducted three sub-critical experiments at the Nevada test site to study the behavior of plutonium under pressure generated by explosives. However, the last US explosive test was held in 1992. Under President Clinton the US position on testing underwent a radical change. President Clinton linked his position on testing to several safeguards related to, “Strengthen(ing) our commitment in the areas of intelligence, monitoring and verification, stockpile stewardship, maintenance of our nuclear laboratories, and test readiness”,² and said that he would be prepared to exercise US supreme national interests and conduct nuclear testing despite a CTBT, if the safety and reliability of US nuclear deterrent could no longer be certified.

US efforts to curtail nuclear tests have been made since the 1950's. The radioactive fallout from hundred of tests of Hydrogen bombs, spurred worldwide protest. These pressures reinforced by a desire to reduce US-Soviet confrontation in the wake of the Cuban missile crises of 1962, led to the Limited Test Ban Treaty of 1963. This was followed by the Threshold Test Ban Treaty, signed in 1974, and Peaceful Nuclear Explosion Treaty, signed in 1976. President Carter did not pursue ratification of these treaties, preferring to negotiate a CTBT, a ban on all nuclear explosions. When agreement seemed near, however, he pulled back, bowing to arguments that continued testing was needed to maintain reliability of existing weapons, to develop new weapons, and for other purposes. President Reagan raised concerns about US ability to monitor the two unratified treaties and late in his term started negotiations on new verification protocols. As a result, these two treaties were not ratified until 1990. Meanwhile, in the late 1980's the House amended several defense authorization bills to halt nuclear test of more than one kiloton for a year if the Soviet Union did likewise and agreed to certain verification measures. These amendments died in conference.

With the end of Cold War, the pressures for CTBT grew and those against weakened. The need for new warheads with improved military qualities dropped sharply,

² Jonathan Medalia, “Nuclear Weapons: CTBT and Nuclear Testing”, *CRS Issue Brief*, June 4, 1998 p.1.

as evidenced by the Bush Administration's policy of July 1992 to conduct no further tests to develop new warheads for five years. In response, to USSR and France, nuclear test moratorium in October 1990 and April 1992 respectively, many in Congress supported a one-year moratorium, on nuclear testing. As the effort progressed, however, it became more complex and ambitious. The result was an amendment to the FY 1993 Energy and Water Development Appropriation Bill. The Hat-field amendment sets many conditions and limits on resumption of testing. Testing was banned after September 1996 unless another nation tested. President Bush signed the bill into law (P.L.102-377) October 2, 1992.

HOW DOES THE US VIEW THE CTBT?

In his address to the 51st session of the UNGA on 24 September 1996 US President Bill Clinton noted that the CTBT "will help to prevent the nuclear powers from developing more advanced and more dangerous weapons... It points us toward a century in which roles and risks of nuclear weapons can be further reduced and ultimately eliminated."³

In other words, the CTBT is a key step that the Nuclear Weapon States (NWS) are taking to meet their obligations to work towards the ultimate elimination of nuclear weapons. In article 1, each party to the CTBT undertakes not to carry out any nuclear weapon test explosion or any other nuclear explosion, anywhere and for all time. In absence of CTBT, continued explosive testing could have demonstrated new developments and the utility of new nuclear weapon designs. These developments might have involved nuclear 'directed energy' weapons such as the nuclear-explosion -pumped X-ray laser and the so called 'nuclear shotgun' that would have focussed the release of energy with greater precision, enhanced Electro-magnetic pulse weapons and microwave weapons. The true zero yield CTBT will preclude the development of these technologies

³ Quoted in John D. Holum, "The CTBT and Nuclear Disarmament: US View", *Journal of International Affairs*, vol.51, no.1 summer 1997, p.272.

and also new 'mini' and 'micro' nukes-weapons designed to produce very low nuclear explosive yields.

So for the NWS, the CTBT will rule out new qualitative advances in nuclear weaponry. A 'no nuclear testing' regime will mean much lower confidence in any new weapon design they might seek to pursue. For prudent military, planners, new types of nuclear weapons will be out of question, given the real uncertainties they would confront without the ability to conduct nuclear explosive tests. In short, under the CTBT the 'vertical proliferation' of new and advanced nuclear weapons pursued by the five NWS should end, the current generation of nuclear weapons being the last one. As such, the CTBT will help foster an international political environment conducive to further reductions in nuclear arsenals and move us towards the ultimate goal of a world free of nuclear weapons.

The CTBT will also facilitate reduction in nuclear forces-the most direct contribution to the nuclear disarmament agenda that the declared NWS can make. It will sustain and give inputs to continued bilateral reductions between the US and Russia. The CTBT will legally eliminate concerns that one of the other NWS may develop advanced new types of nuclear weapons, and thus will build confidence for further negotiations. In the sphere of disarmament, an important way to impose additional and durable constraints on nuclear weapon programs is to ensure that the CTBT is ratified and brought into force as rapidly as possible. Without the CTBT, those constraints will not be formally codified into international law. Without the CTBT, the declared NWS contemplating nuclear weapon reduction and detection of test, will lack the assurances of the IMS and also lack possibility of on-site inspection to help confirm that no other state is enhancing or assembling a nuclear arsenal through nuclear explosion tests. Without the CTBT, all nations will be denied the benefits of a regular verification regime, including the ability to investigate thoroughly suspicions of further nuclear testing. Without the CTBT, the nuclear arsenals that the world community including India seeks to reduce and eventually eliminate, could be developed in even more dangerous ways.

CTBT is non-discriminatory treaty in which each state party makes the same legal commitment- not to conduct nuclear explosions. CTBT does not distinguish between

Nuclear Weapon and Non-Nuclear Weapon States (NNWS).⁴ These disarmament contributions of the CTBT have been widely noted. China's ambassador to the CD for example observed that the CTBT "will surely facilitate the process of nuclear disarmament and prevention of nuclear weapons proliferation, thereby enhancing international peace and security".⁵ Non-Aligned States have similarly praised the CTBT. Sri Lanka's Permanent Representative to the UN, noted his country's "sincere hope that (the CTBT's) conclusion...will prove to be a landmark event in our steadfast efforts to realize the long and cherished goal of world free of nuclear weapons".⁶ South Africa called the CTBT "an essential instrument for nuclear disarmament and non-proliferation... (which will achieve) the end of nuclear test explosions and the inhibition of the proliferation of nuclear weapons, both vertically and horizontally".⁷

The US objection to a direct linkage of NPT and CTBT reflects the view that both the NPT and the CTBT stand on their own feet. In other words, neither should be held hostage to the other. Prior to its entry into force, the CTBT must have a comprehensive monitoring regime that has a high probability of detecting and identifying an underground nuclear explosion. The US wanted a treaty that is universal, it should not only apply to the P5, but to all nations, US sees CTBT as a non-proliferation tool, throwing a roadblock into the path of nations intent on developing nuclear weapons. In addition, a universal treaty provides a means to include in the regime the three threshold states.

The US position was clearly stated by John D. Holum, Director, US Arms Control and Disarmament Agency, to the Conference on Disarmament in Geneva in August 1994, that the dividing line for the negotiations is between development of new weapons, which should be prohibited by a CTBT, and maintenance of existing weapons, including seeing to their safety and reliability which should be permitted under a comprehensive test ban.

⁴ NEA file, Text: Grey 6/25 Statement to Conference on Disarmament, June 26, 1998 p.23.

⁵ Statement by Mr. Sha Zukang, Ambassador for Disarmament Affairs, Resumed Session of the 50th session of the UN General Assembly (New York: 9 September 1996). Quoted in Holum (note 3), p.273.

⁶ Statement by Mr. H. L. De Silva, Permanent Representative of Sri Lanka to the UN, Resumed session of the 50th session of the UN General Assembly (9 September 1996). Quoted in Holum (note 3), p.274.

⁷ Statement by Mr. K.J. Jele, Permanent Representative of South Africa to the UN, Resumed Session of the 50th session of the UN General Assembly (9 September 1996). Quoted in Holum (note 3), p.274.

From the US perspective, there is a clear line between development and disarmament. Conceivably, one way in which the latter objective could be reached is to make maintenance of current stockpiles (which relies on nuclear testing) more difficult. Overtime, the risk of keeping weapons in the stockpile increases. The US position is that the treaty should not be designed to impede the maintenance of the current stockpile. According to a statement released by Arms Control and Disarmament Agency in 1994,

The US believes that achievement of a CTBT will be a major step towards further constraining the spread of nuclear weapons.... The US will continue to take appropriate steps... to ensure a high level of confidence in the safety and reliability of the US nuclear deterrent.⁸

However, it is useful to consider what is not on the US list of objectives: 'Disarmament'. Broadly defined there can be three objectives for a CTBT, to impede the proliferation of the nuclear weapon, to prevent the development of new nuclear capabilities and to facilitate the process of disarmament. The US wholly endorses the first objective accepts the second but does not by any means subscribe to the third.

In contrast, many of NNWS believe that nuclear disarmament should be the first priority of CTBT. They believe that the CTBT is an indispensable measure to put an end to the nuclear arms race and to achieve the complete elimination of these weapons. A CTBT should not be seen merely as a non-proliferation agreement but as an agreement that can contribute to nuclear disarmament.

CTBT's contribution to the US Non-proliferation efforts

Jozef Goldblat, Senior Research at the Stockholm International Peace Research Institute (SIPRI) and David Cox, Director of the Research at the Canadian Institute for International Peace and Security (CIIPS), identify three ways in which CTBT would contribute to US proliferation efforts⁹:

- It would directly bolster NPT;

⁸ Statement released by the US Arms Control and Disarmament Agency in *ACDA Issue Brief* on March 15 1994, p.3.

⁹ Jozef Goldblat and David Cox, Nuclear Weapon Tests: Prohibition or Limitation (New York: Oxford University Press, 1988), p.108.

- It would inhibit testing by threshold states;
- It would give the US greater bargaining leverage in general 'nuclear matters'.

“Of course, the CTBT is not panacea”, Leslie Gelb concluded; “I cannot quantify exactly how much a CTB(T) would help our proliferation efforts. But I am confident that it will be of substantial benefit.”¹⁰

WHY DOES THE US CRITICIZE INDIA’S STAND ON CTBT?

India vigorously objected to the treaty’s Entry into Force (EIF) provision, which requires ratification by 44 States (including India) that are participating members of the expanded Conference on Disarmament (CD) and possess nuclear power and research reactors according to the IAEA. By linking the treaty’s implementation to India’s ratification, New Delhi claimed that the provision would compromise its sovereign right to freely decide whether it would sign the CTBT. Moreover, India rejected the possibility of a ratification conference, fearing that the ‘measures’ that may be considered could include economic sanctions against non-signatories. India proposed that the treaty should enter into force once it had been ratified by at least 65 unspecified countries (as with the Chemical Weapons Convention). India has pointed out that PTBT also provided a simple model. It entered into force on ratification by three negotiating parties and the time from signature to entry into force was a mere two months. Even the NPT required ratification by the three depositary states, (the US, the UK, and the USSR), and forty others; this took twenty months. In the 1977-80, set of negotiations, it was agreed that the three negotiating parties plus twenty others would suffice. In other words, India wants a simple model to be followed so that the CTBT can be implemented.

In order to assuage India’s concern on EIF, Ambassador Jaap Ramaker of Netherlands formally stated on that this provision “...(EIF) does not impinge on the sovereign right of any state to take its own decision about whether or not to sign and

¹⁰ “Efforts of the Comprehensive Test Ban Treaty on US National Security Interest”, Hearing before the Committee on Armed services, Intelligence and Military Application of Nuclear Energy subcommittee, US House, 95th Congress (US Government Printing Office; Washington D.C., 1978) pp.107-8.

ratify the treaty.”¹¹ He added that the ‘measures’ that might be considered by the ratification conference do not refer to those that might be taken in accordance with chapter VII of the UN Charter, including sanctions. In a letter to former Indian foreign minister I.K. Gujral, Secretary of State Warren Christopher said that the US would not impose sanctions against countries that choose to remain outside the treaty. In US perception, the CTBT posed no breach of a State’s right to make its own decisions – no state can be forced to sign. No one denies that each state has the sovereign right to choose whether or not to sign and ratify this treaty or any other treaty. But such an EIF requirement is also not new. In 1960s, both the LTBT and the Outer Space Treaty¹² required that certain states, identified as ‘original parties’ and ‘depositories’ respectively before the treaties could enter into force. Conventional Forces in Europe Treaty required the ratification of all 22 states named in the treaty’s preamble who were identified as ‘State Parties’ to the treaty. None of the other 43 states whose ratification is required for Entry into Force of the CTBT has argued that the clause is a breach of its sovereignty.

John D. Holum observes that India seems to be intent on improving relations with its Asian neighbors. India concluded historic water sharing agreements with Bangladesh, and Nepal in December and November 1996 respectively. India is a member of ASEAN Regional Forum and a full dialogue partner with ASEAN and hopes to become a member of the Asian–Pacific Economic Cooperation forum (APEC). India has endeavored to improve its relations with China¹³ then, what was the immediate impetus, which compelled India to test? For more than 40 years, Indian leaders have championed nuclear disarmament. It was Nehru who in 1954 first called for a ban on nuclear weapons testing and on fissile material production for nuclear weapons¹⁴. Yet in September 1996 New Delhi sought to block the completion of CTBT. John D. Holum further points out, “Just

¹¹ Craig Cerniello, “India Blocks Consensus on CTB: Treaty may still go to UN” *Arms Control Today*, vol.26, no.6, August 1996 p.31.

¹² The 1967 Outer Space Treaty contains an explicit ban on the testing of any type of weapon on celestial bodies, a ban which has been reiterated and reinforced with regard to the moon in 1979 Moon Treaty.

¹³ The December 1996 visit Chinese President Jiang Zemin to New Delhi, both highlighted this improvement and produced a 12-point agreement designed to expand confidence-building measures and reduce tensions along Indo-Chinese border.

¹⁴ Statement by Nehru, Lok Sabha (New Delhi: 2 April 1954). Quoted in John D. Holum, (note 3), p.264.

as the international community has begun to move in the direction. India has advocated for decades, New Delhi appears to be unwilling to join in steps, such as the test ban, that are widely recognized as critical to the nuclear disarmament process.”¹⁵

For years, India has led Non-Aligned Movement (NAM) efforts to promote disarmament and to complete intermediate steps such as a CTBT and a cut off of the production of fissile material for use in nuclear weapons. Yet today, while India appears unwilling to embrace such agreements, the majority of NAM States have chosen to work with the international community to achieve practical progress on disarmament agenda.

In May 1995, the near-universal membership of NPT extended the treaty indefinitely. Rather than seek to limit extension of the treaty, the countries concluded to make NPT a permanent part of the international security architecture. In addition to extending the NPT, the parties also voiced their support for the type of step-by-step disarmament process that India now appears unwilling to support.

India’s demand for nuclear disarmament with in a time bound framework has been severely criticized. While a specific time frame may sound attractive in the abstract, most states believe it to be unrealistic. Achieving the ultimate elimination of nuclear weapons depends on many factors. Chief among these are steps to strengthen international security and create conditions allowing states with nuclear weapons to reduce their reliance on them over time. Such steps can be taken at all levels-unilaterally, regionally and globally. However, it is simply unrealistic to think forty years of a nuclear arms race can be canceled out overnight.

Requiring the elimination of nuclear weapons by a certain date simply is not effective. Real gains in arms control and disarmament depend not on what is desired or even demanded, but on what is possible as matter of security. Progress is greater and faster when countries aim for practical increments rather than great leaps. In this way, each successful step changes the security environment and so makes subsequent steps more attainable. Conclusion of the Intermediate Range Nuclear Forces Treaty (INF) for example paved the way for strategic reductions under START-I, which in turn opened the

¹⁵ John D. Holum, (note 3), p.264.

door for START-II. The indefinite extension of the NPT, rather than halting further nuclear disarmament steps as some argued would happen, gave important impetus to international efforts to conclude the CTBT. The CTBT, in terms should make subsequent steps easier to achieve. While a definite time frame might seem attractive, the best bet is working to conclude the steps that are possible now and to identify early on the steps that can follow and begin planning for them.

Some in South Asia ask, if the Soviet Union and US could safely manage a nuclear competition, why can't South Asia do the same? The history of Soviet arms race was fraught with risks, instabilities, high cost and extreme danger. In the early 1960s, for example the US misperception that the Soviet Union had greater numbers of ICBM's led to acceleration in missile production. This prompted each side to consider anti-missile defenses, which in turn gave impetus to efforts to 'MIRV' missiles. Again during the 1967 Cuban missile crises, had the US decided to invade Cuba, the Soviet Union might well have responded with a nuclear attack.¹⁶

In South Asia, where short flight ballistic missiles could be deployed near the India-Pakistan border, the virtual lack of attack warning systems could exacerbate the kind of dangerous instabilities that drove the US-Soviet nuclear competition.¹⁷ Moreover, nuclear arms race in South Asia would have serious implications not only for regional security but for international security as well. Even a nuclear arms race that did not end in war would be an unfortunate set back for South Asia, as it would be for the world to halt the proliferation of nuclear weapons and move towards their ultimate elimination.

Were India to deploy nuclear weapons, concerns in neighbouring regions would increase and could cause some countries in East and Middle Asia to rethink their nuclear weapon status. Reaction from China and Pakistan can be imagined. Rather than a world moving towards nuclear disarmament, we could see a world moving towards new nuclear arms race. Decision by India and Pakistan to acquire and deploy nuclear weapons run

¹⁶ James G. Blight and David A. Welch, On the Brink American and Soviet Re-examine the Cuban missile crises (New York: Hill & Wary, 1989) and the Henry L. Stimson Center, An Evolving US Nuclear Posture, Report 19, unpublished paper (Washington D.C.: December, 1985) p.6.

¹⁷ The distance between Islamabad and New Delhi is only 500 miles.

counter to current global trends that identify the robustness and strength of a country's economy as the key measure of its stature. It is no accident that Japan and Germany are the two most powerful influential countries in the world who have forsaken nuclear weapons and yet are the two important and influential countries in the world.

States that have signed the CTBT certainly remain hopeful that India will rethink its approach to the treaty and support practical international efforts towards nuclear disarmament. For their part, Indian policymakers will need to ask themselves whether their country and the world are better off without the CTBT than they would be with the new real constraints on nuclear weapon programs that the treaty imposes. As Representative of Indonesia commented that while he perceives flaws in the treaty, "... the international community can not dispense with a CTBT ... because failing to seize an existing opportunity would have led to negative implications for disarmament."¹⁸ Expressing a similar sentiment, Malaysia's ambassador to the UN stated that an imperfect treaty is better than no treaty. The challenge before the international community, pending the Entry into Force (EIF) of the treaty, is in ensuring that the current moratorium on nuclear testing are being observed, while exerting every effort to secure universal endorsement of the treaty.¹⁹

Thus all states must foster a regional and international security environment in which nuclear disarmament can be pursued. Nuclear disarmament cannot occur on demand or in a vacuum, but must take place in the context of broader improvements in the international security environment and should work to find ways to reduce further reliance on nuclear weapons and pursue bilateral, regional and global dialogues and agreements designed to reduce tensions and address security concerns.²⁰

¹⁸ Statement by Nugroho Wisnumurti, Permanent Representative of Indonesia, General Debate in the First Committee on Disarmament and International Security, 51st Session of the UN General Assembly (New York: 14 October 1996), Quoted in John D. Holum, (note 3), p.264.

¹⁹ Statement by H.E. Ambassador Hasmy Bin Agam, Alternate Permanent Representative of Malaysia to the UN First Committee on Disarmament and International Security, 51st Session of the UN General Assembly (New York: 14 October 1996), Quoted in John D. Holum, (note 3), p.264.

²⁰ Holum, (note.3), p. 279.

INDIA'S NUCLEAR TESTS AND THE US RESPONSE

The US considers the nuclear testing by India and Pakistan as totally irreconcilable with claims by both countries that they are committed to disarmament. The back-to-back tests by both countries unquestionably represent a setback for the search for peace and stability in the South-Asian subcontinent, and indeed, for the cause of global non-proliferation.

International security will not be enhanced by provocative and dangerous acts. Nor will regional or global security be improved or maintained by indulging in competitive maneuvers to further develop nuclear capabilities and delivery systems. The tests blatantly undermine the international regime of non-proliferation of nuclear weapons. US officials insisted in testimony before the Congress that they had stressed to India during recent meetings the importance of nuclear non-proliferation.

US President Bill Clinton found the nuclear tests by India an affront to the US efforts to prevent nuclear proliferation. He stated that he was “deeply disturbed by the nuclear tests”, he did not believe that such tests contributed to “building a safer 21st century” and added that “this action by India not only threatens the stability of the region, it directly challenges the firm international consensus to stop the proliferation of Weapons of Mass Destruction”.²¹ The President called upon India to announce that it will conduct no further tests, and it will sign the CTBT now and without conditions.²²

Madeline Albright, Secretary of State noted that the ‘pay off’ India got from exploding nuclear devices was mutual insecurity, decreased prosperity, a harvest of fear at home and condemnation abroad. “They really hit the Jackpot, didn’t they?” she asked. She also said:

...they (India and Pakistan) should realize that NPT will not be amended to include them as nuclear weapon states... A generation ago, it was predicted the world would have twenty to thirty nuclear states. No measure has done more than the NPT to prevent that. If we were to allow India and Pakistan to test their way to nuclear status under that agreement,

²¹ USIS, Official Text, May 14 1998 p.3.

²² *ibid.*, p.3.

we would create an incentive for others to follow their misguided example.²³

She told the US Congress that the Indians had deceived the US by conducting the nuclear tests. She also remarked:

The recent decisions by India and Pakistan to conduct nuclear tests reflect old thinking about national greatness, and old fears stemming from a boundary dispute that goes back more than five decades. The Indian Prime Minister justified his action by saying that his country has the sanctions of her own past glory. But if that rationale made any sense, which it does not, other inheritors of past glory, from the modern day Egyptians and Babylonians to the Incas and Aztecs, would be out setting off atomic blasts. Our message to the leaders of South Asia and nations everywhere is that if you want the world's respect – don't set off nuclear bombs; educate your people. If you want the world's understanding, don't get into an arms race-use technology to prosper in the global economy. And if you want the world's help; don't talk about how much you can destroy –show us how much freedom and opportunity and tolerance and respect for human dignity you can create. That is the badge of greatness. And in that quest, every nation that is prepared to help itself can count on the help of the United States.²⁴

Indian officials have maintained that the nuclear tests provide reassurance to the people of India that their national security interests are paramount and will be promoted and protected.

Karl Inderfurth, Assistance Secretary to South Asian Affairs, while rejecting the rationale for the testing stated:

... they (Indian Official Spokesman) have cited a variety of issues as a rationale for testing –all of which, I should add, we firmly reject as providing sufficient justification for this most unwise act. Specifically, they have pointed to unresolved border problems with China; to great concern over China's ties with Pakistan's; and what they view as continuing hostility from Pakistan and Pakistani support for terrorism in the disputed territory of Kashmir. We cannot see how any of these concerns will be effectively addressed by testing nuclear weapons. We have also heard the argument from Indian officials that Indian military capabilities are no longer respected in the region, and thus series of tests

²³ USIS, Official Text June 11, 1998, pp.3-4.

²⁴ Secretary of State's Address at Minnesota, USIS, Official Text, June 16, 1998, p.2.

were necessary. We find that too, to be unpersuasive as a rationale, despite the reaction from India itself, where the decision to test has been greeted almost universally within India with firm support, bordering on euphoria.²⁵

US Deputy Secretary of State Strobe Talbot characterized the tests by India and subsequently by Pakistan as a path leading to a 'dead end' and advised others not to follow down that path.²⁶

The administration was attacked by lawmakers who said it was inexcusable that US Intelligence had not detected the impending tests. Commerce Secretary William Daley, whose agency was at the forefront of administration efforts to build greater commercial ties with India, said little attention had been paid to the possibility of a test during his December trade delegation visit, despite public announcements by the incoming Bhartiya Janta Party (BJP) that it was considering stepping up the nuclear program. "To be honest with you, this was really not on anyone's radar screen as something to be expected from the new government if the BJP won, Daley said.²⁷

Republican National Committee Chairman Jim Nicholson blasted the Clinton administration for its failure to either predict or prevent the detonations. He cited "a monumental intelligence and diplomatic failure"²⁸ by the intelligence community.

In short, the US deplores Indian nuclear tests because of the breach they represent in the global non-proliferation policy. US sees nuclear tests in South Asia are an 'eye-opener' for the people who believed that the Cold War had ended and that the nuclear era was finally winding down. It sees the tests as the next great wave of proliferation.

It's evident that the US criticism of India's nuclear stand is based on certain criteria:

- India's action reflected an outrageous contempt for the common will of the international community.

²⁵ USIS, Official Text, May 14, 1998 p.2.

²⁶ Cable News Network (CNN), Internet Website, June 18, 1998.

²⁷ Chicago Tribune, May 14, 1998.

²⁸ USA Today, May 14, 1998.

- India is using the ‘China Threat’ as an excuse for the development of its own nuclear weapons.
- India is seeking ‘hegemony’ in South Asia.
- The international community should adopt a common position in strongly demanding India to immediately stop its nuclear development program.

ECONOMIC SANCTIONS AS INSTRUMENTS OF FOREIGN POLICY

The nuclear tests could not possibly have come at a worse time for the Clinton administration. Why? Because the underground blasts point to the need for imposing economic sanctions on India, just when the White House was preparing to argue that such penalties are employed too often as a tool of American Foreign Policy. A quiet campaign against the use of economic sanctions had been gaining strength in Washington. A lobbying group called ‘USA Engage’, a coalition of 670 American Companies, has been arguing that unilateral US sanctions do not work and are too expensive for American business, causing firms to lose contracts overseas.

“Most of those industrialized countries don’t believe in using economic power as a levee in diplomacy the way we do”²⁹, as McCurry, the White House Spokesman observed. He appeared to be echoing the American Business Community’s main argument, that sanctions mean the loss of business to other countries. These remarks were made only a couple of hours before news of India’s nuclear tests reached Washington. The Indian tests, however, underscore the fact that sometimes, economic sanctions can be an important and justifiable tool of US foreign policy.

²⁹ Los Angeles Times, May 13, 1998.

The 1994 Law³⁰ put President Clinton in an awkward position. If he imposed sanctions, he would probably feed India's chronic sense that the US treats it unfairly and that the foreign policy of US is in favor of China. But the arguments for sanctions make sense. First, the law made by Congress is so clear that that it left Clinton with no choice. Second, imposing sanctions on India may have deterred Pakistan. And finally, the new Indian government clearly defied years of appeals by the US, including a specific warning in 1995 that sanctions would be imposed if it carried out a nuclear test.

"Sanctions will have to be imposed if the United States is to be considered serious about non-proliferation"³¹, said Bates Gill, an arms control specialist at the Monterey Institute of International Studies.

In the US Congress, senior Republicans, including Senate Foreign Relations Committee, Jesse Helms (Republican – National Committee), said they would never support lifting of the US sanctions until India completely renounced its nuclear weapon program. "The appropriate US response must be vigorous international sanctions against India to be lifted only after India's nuclear program has been rolled back"³², Helms said. He and other Conservatives said that the Indian tests spell down for the administration's hopes of winning Senate ratification of the test ban treaty.

President Clinton led an avalanche of global condemnation of India's underground nuclear tests, but administration officials and arms control specialists acknowledged that the international community probably doesn't have enough leverage to force New Delhi to stop developing nuclear weapons any time soon. Senator Sam Brownback (Republican – Kansas) said, "As I've said before, sanctions³³ are instruments of foreign policy, They are not a substitute for foreign policy. We need to

³⁰ In 1994, Congress passed a law called Nuclear Proliferation Prevention Act. It requires the President to impose a series of economic sanctions on any country outside the five declared nuclear powers that is found to have conducted a nuclear test. Under the law five declared nuclear powers cannot be sanctioned.

³¹ Los Angeles Times, May 13, 1998.

³² Chicago Tribune, May 14, 1998.

³³ Sanctions against India are placed pursuant to section 102 of Glenn Amendment.

rethink over sanctions legislation. It would provide President with enough flexibility, in consultation with the Congress, to waive sanctions.”³⁴

Testifying before a House Panel on nuclear proliferation in India, Karl Inderfurth, Assistant Secretary for South Asian Affairs, said the US had hoped the economic sanctions required under the Glenn Amendment would never have to be implemented. He observes:

... we had to navigate our way through a wide arranging of issues and decisions about how the sanctions apply to different programs and activities, and are faced with the fact that the sanctions may result in unintended negative consequences, and that there is no termination clause... The purpose of sanctioning is to influence the behavior of India, not simply to punish for punishment’s sake.³⁵

Still expert insisted that swift, decisive action against India was vital to prevent the destruction of the web of treaties and commitments that has helped to contain the spread of nuclear weapons and make the world a safer place over the past decades. The US saw the action by India as direct challenge to firm international consensus to stop the proliferation of WMD. Stressing that the US strongly opposes nuclear testing, Clinton said, that “our laws have very stringent sanctions... in response to nuclear tests by non-nuclear weapons states, and I intend to implement them fully.”³⁶

In addition, to continuing efforts to deal with the crisis, and to encourage the cessation of provocative statements and actions, US is also making a concerted effort to lay the groundwork for halting a nuclear and missile arms race in the region. As Karl Inderfurth has observed:

We must remain engaged, and while sanctions will indeed exact a price, we must also work with both governments to chart a path for the future. That future ideally will produce concrete actions by both governments to demonstrate a strong commitment to nuclear and missile restraints and to reducing regional tensions. These actions should include signing and ratifying the CTBT without condition, refraining from missile tests and agreeing not to weaponise or deploy missile systems... and for the sake of

³⁴ USIS, Official Text, July 14, 1998, p.2, available at <http://www.usia.gov/posts/delhi.html>.

³⁵ *ibid.*, p.3.

³⁶ Los Angeles Times, May 13, 1998.

regional stability and prosperity, resuming direct dialogue to address the root causes of tensions, including Kashmir.³⁷

The US is also working aggressively to keep the international community focussed and is working productively on these matters. Through P5 and G-8 meetings, the US is working within these institutions to encourage other nations and organizations to be involved. In this regard Karl Inderfurth has noted:

It will be important, for instance, to work with countries that had the ability –but forswore it – to acquire nuclear capabilities, such as Argentina, Brazil, Ukraine and South Africa. These countries were invited to join the G-8 for a luncheon at the London meeting along with China and the Philippines. We also intend to work very closely with Germany and Japan, ... which did not acquire their world power status by testing nuclear weapons. We will remain focussed on regional and security institutions such as NATO, ASEAN, the OAU, the OAS, and the membership of the NAM...³⁸

WHY US WANTS INDIA TO SIGN THE CTBT?

The CTBT would improve US and international security by preventing qualitative improvements in the nuclear weapons of the nuclear weapon and threshold states, by discouraging additional states from seeking nuclear weapons and by reducing the inherently discriminatory nature of the present nuclear non-proliferation regime.

The most direct consequence of the CTBT is its role in preventing the development of new, more sophisticated nuclear weapons by both the nuclear weapon and threshold states.³⁹ The experience of Israel, Pakistan and South Africa demonstrates that technically capable states can develop first generation fission bombs without testing. The indigenous development of more sophisticated fission and thermonuclear weapons however requires nuclear testing. This would hold true both for threshold states

³⁷ Karl Inderfurth: "US Chagrined To Implement Sanctions on India, Pakistan", USIS, Official Text, June 19, 1998, pp.3-4.

³⁸ *ibid.*, p.4.

³⁹ Spurgeon N. Keeny Jr. and Craig Cerniello, "The CTB Treaty: A Historic Opportunity to Strengthen the Non-Proliferation Regime", *Arms Control Today* vol. 26, no.6 August 1996, p. 15.

improving on untested first generation designs and for the most advanced NWS seeking new capabilities. NNWS that might otherwise be tempted to pursue the nuclear option may well be deterred from seeking an initial nuclear capability because their program would be severely limited since they had forsworn testing.

Although a CTBT would have had a much larger input in the 1950s and 1960s when the technology was rapidly evolving, a test ban will significantly constrain the qualitative improvement of existing nuclear arsenals. For instance, the primary motive behind China's final nuclear test may well have been to develop nuclear weapons suitable for deployment on multiple-warhead missiles. A CTBT would impose severe limitations on any further modernization of the Chinese nuclear weapons. A test ban would also preclude any effort by the US or Russia to develop a new generation of highly sophisticated special effects or special purpose weapons should their relations deteriorate in the future. Such weapon development could not be carried out even by the NWS on the basis of computer calculations alone, and minor modifications to existing weapons would be pointless with the proven design already available.

The CTBT will strengthen the non-proliferation regime by demonstrating that the P5 are serious about their commitment in the NPT to move towards nuclear disarmament. There is widespread belief among NNWS that the NPT is inherently discriminatory because it permanently divides the world into nuclear 'haves' and 'have-nots'. The signing of CTBT would reassure all the NPT members that they made the correct decision on agreeing to the treaty's indefinite extension and would strongly reinforce the implicit obligation of NNWS under the NPT, the CTBT would help prevent the further spread of nuclear weapons.

In US view, the EIF problem and India's refusal to sign the treaty should not obscure the historic significance of the fact that the five NWS have endorsed the current draft of CTBT and have for the first time, simultaneously instituted a moratorium on nuclear testing. Israel has announced its intention to sign the treaty, and Pakistan has indicated its willingness to sign if India does. The CD has already produced a *defacto* ban on nuclear testing-which after signature would become *de jure* for the signatories under

the Vienna Convention on Law of Treaties. The CTBT would establish a new international norm against nuclear testing. Hence India should sign the treaty.

US policy derives from concerns about both the regional and international implications of nuclear proliferation in South Asia. In the regional context, it's believed that the nuclear programs in India and Pakistan could not only lead to destabilizing nuclear arms race, but might also increase the risk of a nuclear conflicts occurring in an already unstable region. In the international context, it's believed that the nuclear programs in India and Pakistan threaten to undermine the international nuclear non-proliferation regime. India's role in opposing CTBT and its ability to prevent its entry into force has severely undermined the prospects of the current centerpiece of US global non-proliferation policy.

THE RATIFICATION DEBATE IN US

The CTBT will be contentious in the Senate, given the difficulty the Administration encountered in obtaining Senate advice and consent to ratification of the Chemical Weapons Convention and the fact that the 1996 Republican platform opposed the CTBT while the Democratic platform supported it. On September 22, 1997, President Clinton submitted the CTBT to the Senate. Senate hearings have focussed on US ability to maintain nuclear weapons without testing, a key issue in Senate consideration of the CTBT.

Arguments for Ratification of the CTBT

The advocates of CTBT in the administration are usually found in Arms Control and Disarmament Agency (ACDA) and the State Department sometimes supported by the Central Intelligence Agency. Over the years they have been joined by increasing numbers of Congressmen from both the parties and by scientists who dispute the technical aspects of the oppositions arguments. Several arguments are put forward in favor of ratifying the treaty.

- **CTBT stands in way of growth of new Nuclear Weapon States:** Supporters of the treaty, including many abolitionists argue that these two agreements (CTBT and

NPT) flawed though they may be, stand in the way of rampant growth in the number of NWS. The greatest need is to reduce the attraction of nuclear weapons for all nations; it is not in American interest to add qualitatively or quantitatively, to the world's nuclear arsenals.

- **CTBT moves away from a discriminating regime:** Supporters argue that it would fulfill disarmament commitments the NWS made in the NPT and its 1995 Review and Extension Conference and move away from a discriminating regime in which NWS can test, while others can't.
- **CTBT is essential to monitor nuclear related activities:** Whether or not there is a CTBT, the US Intelligence Community has got to give priority to monitoring nuclear related activities of nuclear powers and the nuclear 'wannabes'. The CTBT gives them new tools to do that job better.
- **Voluntary Moratorium on testing by the US:** Analysts argue that US is out of nuclear test operation based on unilateral decision.⁴⁰ Robert Bell, Special assistance to the President for National Security Affairs, in a press conference held by Coalition to Reduce Nuclear Dangers said:

If we are indeed out of the nuclear testing business in the same way that we decided to get out of the chemical weapons production business, then it seems to me that it is fundamentally in our interest, through a treaty, to try to get as near to universal adherence to that norms as possible.⁴¹

- **High confidence can be maintained:** US has a very sound program to maintain high confidence in its nuclear inventory absent actual nuclear explosions. US is in the seventh year of developing the SSMP and the amount of money to be spent has to be increased. Can the US maintain an acceptable level of confidence at acceptable expenses without recourse to nuclear testing? There is a good reason that it can. As argued by Harold P. Smith and Richard S. Soll:

⁴⁰ For example, the Hatfield –Exon-Mitchell legislation of 1992 enacted a permanent ban on nuclear testing after September 30, 1996 unless another state tested, in which the legislation drops.

⁴¹ Robert Bell, "The Issue Behind CTBT Ratification Debate", *Arms Control Today*, vol.27, no.7, October 1997, p.8.

... some of the country's best and brightest scientists have been working on nuclear weapons for 50 years. The weapons have been extensively tested and, as a result, there is a comprehensive database that was optimized during the Cold War with the presumption of continued testing and with a new system always on the drawing boards. Now, we are able to draw upon that data, experience and talent. Most importantly, the United States has no requirement to develop advanced new designs of nuclear weapons to increase performance. While the role of nuclear test explosions in developing new, increased performance designs is essential, it is less important in maintaining the *status quo*, which includes refurbishing, rebuilding or re-manufacturing existing weapons as necessary modifications to improve their safety, reliability and effectiveness.⁴²

- **The American public overwhelmingly supports the CTBT:** Result of a poll conducted by Wirthlin Worldwide and Mellman Group showed that large majority of voters polled in six states across the nation favor Senate ratification. The percentage of supporters ranges from a low of 78 percent in Tennessee to a high of 86 percent in Oregon. And in none of the six states surveyed does support drop below 70 percent among Republican, Democratic, or Independent voters. Mark Mellman, one of the pollsters, called the results “very clear, very consistent, very overwhelming.” It is “very rare that you see this level of consensus on any issue”.
- **Majority support in the Congress not to resume nuclear testing:** There is wide support in the US for quick approval of CTBT. Democrat Joseph Biden of Delaware has also argued that the US, given its technological edge, is in the best position of any country in the world to do without further testing. He says: “If this nation does not ratify the treaty, then countries like Japan, South Korea and Brazil will undertake serious reviews of their own non-nuclear status within the next few years”. He called US approval of a ban before this is allowed to happen, and he considers this to be absolutely vital to his countries’ naked self-interest.⁴³
- **Adequate verification of CTBT can be assured:** The international community is ready to put necessary arrangements in place. Robert Bell observes:

⁴² Harold P. Smith and Richard S. Soll, “Challenges of Nuclear Stewardship under Comprehensive Test Ban,” *Arms Control Today*, vol.28, no.2 March 1998, p.4.

⁴³ USIS, Backgrounder, July 30 1998, pp.1-2.

We believe the treaty is effectively verifiable because, in our view, the tests that a state would have to conduct to advance its nuclear capability-both in terms of number and yield are likely to be detected under this treaty. Of course, you can re-manufacture and build any nuclear device you want and tell yourself that you have made it more capable, more deadly or more sophisticated. But the issue is whether you have confidence that you have achieved that goal. Our view is that most nuclear powers, given the realities of the CTB, are not going to take a chance on putting some new weapons type into their inventory that has never been tested, or take a chance at some tests below the full level of the primary and then try to extrapolate the results. Moreover it is one thing to say that we will not have high confidence that we could detect very low-yield testing. That does not mean, however, you do not have any chance of detection. You have other means available, such as human intelligence and signal intelligence. These are sources beyond the treaty's International Monitoring System. Is any state going to take that chance for a technical result that is of such meager value? Our assessment is no. That is why we assert that the treaty is effectively verifiable.⁴⁴

On August 16, 1997 a seismic event was reported in the Washington Times. Lynn Sykes, Higgins Professor of Earth and Environmental Science at Columbia University, has said that US should sign the CTBT, as it is verifiable. In this regard he observed:

... since we all agree that this event took place either in Kara Sea or below the sea floor there, if it was a nuclear explosion, there are fission products in the water. There are going to be people going around looking for those fission products, so we will find out. What anybody would do with a 5-ton nuclear yield test is not at all clear. If it is below the ocean floor, how did they do it? How did they dig a hole deep enough to contain a 100-ton test without being noticed? If you are worried that in the future somebody is going to dig into the sea bottom and detonate an explosive that is a pretty bizarre scenario without military benefit so far as I can see...⁴⁵

Commenting on why is it essential to ratify the treaty, Charles Curtis, former Deputy Secretary of Energy and a member of Nuclear Weapon Council from 1994 to 1997, said that it cannot be ruled out that it was an earthquake and also that it was explosive in nature. It cannot be proved that it was an earthquake and also that it was

Robert Bell, (note 41), p.11.

ibid., p.10.

not an earthquake. The CTBT brings added value to the equation. With the CTBT there is a mechanism under which you can react. The CTBT brings added tools in terms of consultation, clarification and on-site inspection that helps shed light on events that are not necessarily clear cut. He further added:

When I arrived at DOE, the planning for that program (Stockpile Stewardship and Management Program⁴⁶ of the Department of Energy) was in initial stages, and there was a fair amount of skepticism within the laboratories and within the department itself, and certainly within the Department of Defense, as to whether that challenge could be effectively met. I think that for this treaty to be accepted by the Congress, the departments of Energy and Defence and the administration, collectively, will have the burden of persuading the Senate and the Congress generally on a bipartisan basis that this challenge can indeed be met with a high degree of confidence.⁴⁷

The US government insisted on very high standards of verification during the negotiations for the test ban treaty.⁴⁸ The US got what it wanted in terms of the four major types of global monitoring systems under the IMS. These consist of

⁴⁶ The detailed program plan is embodied in something called the Green Book, a classified document which represents the collective views of those involved in the process as to what is in place and what is planned to discharge the stewards (someone who is entrusted usually with the keeping of an estate; in this case, it is with the keeping of an enduring nuclear stockpile with a high degree of confidence that is both safe and reliable) duty. There is a linkage of the science-based stockpile stewardship program with the annual certification process for the US nuclear arsenals. This certification involves the Directors of three weapon laboratories, the Commander-in-Chief of the strategic command, the Joint Staff and the Nuclear Weapon Council. The Council is composed of the Under-Secretary of Defense for acquisition, the Vice-Chairman of the Joint Chiefs of Staff. This disciplined and transparent process provides assurance to the President, through the Secretaries of Defense and Energy, that the weapons in the enduring stockpile are indeed safe and reliable and sufficient for their military missions.

⁴⁷ Charles Curtis, "The Issue Behind the CTB Ratification Debate", *Arms Control Today* October 1997, vol.27 no.7 p.8.

⁴⁸ CTBT no doubt consists of a very sound verification system. To cite an example, On August 28, The Washington Times carried the story that the Russians were suspected of having carried out a nuclear test at their arctic test site at Novaya Zemla. Data was very strong both from IMS and from other key stations in Europe and Asia- and show that the event was a small earthquake in the ocean and not a small nuclear explosion.

Any seismic event as deep as 15 kilometers is certainly an earthquake. No one has yet drilled into earth's crust as low down as 10-15 kilometers, and the deepest nuclear explosion have been at a depth of about two kilometers.

Also see Lynn Sykes and Jack F. Evenden in "The Verification of a Comprehensive Nuclear Test Ban", *Arms Control and Arms Race: readings from Scientific American* with introduction by Bruce Russett, Fred Chernoff (New York: W.H. Freeman, 1985).

seismological, underwater sound, atmospheric infrasound and a sampling of radionuclides produced by nuclear explosions. In addition to these, the US under the treaty is allowed the use of its so-called national technical means of verification, that is, intelligence gathering systems including satellite imagery and other types of sensors. In addition, in a number of countries in which there is a concern about proliferation, including North Africa and the Middle East, there are so called auxiliary seismic stations.

- **To maintain a leadership role:** Ratification is critical to US efforts to maintain an effective leadership role in maintaining and strengthening the nuclear non-proliferation regime, which is the principal constraint on testing by non-nuclear weapons states. If the US fails to ratify the treaty before September 24, 1999, it will only be able to participate in the conference as an observer, without a voice or a vote, in the efforts to bring into force a treaty in which it has played such a central role. If the US has ratified the CTBT and the treaty is moving towards entry into force, the US will be in a key strong position to press the conference to support its other efforts to strengthen the non-proliferation regime with respect to potential proliferators. But if the treaty has been rejected or is still before the Senate, the US will be strongly attacked at the NPT Review Conference⁴⁹ as the barrier to an effective non-proliferation regime and will lose much of the leadership role it has rightly achieved over the years”.

In this regard, Robert Bell, has observed:

... the US should lead. We have taken the lead for 40 years. We took the lead in the negotiations at the Conference on Disarmament (CD) in getting this treaty completed. President Clinton took great pride in being the first head of State to sign the CTB(T)... I hope we should be in the vanguard of states to get the treaty ratified.⁵⁰

He goes on to say:

You are familiar with India's position on this. In the endgame in negotiating the treaty, we had a choice: not to have a treaty because

⁴⁹ Next NPT Review Conference to be held in the year 2000.

⁵⁰ Bell, (note 41), p.12.

China was not going to agree to the treaty unless there was a prospect of India being in it, or come up with a middle ground position, which we were able to get at the very ends of the negotiations, that there would be two ways to secure entry into force. The first is through the front door; 44 states, including India and Pakistan have to ratify for the treaty to enter into force in the fall of 1998. If that fails though, there is the three year mark in the fall of 1999, when the states that have ratified the treaty get to vote on calling an extraordinary conference to figure out how to get the treaty into force despite these provisions. The catch is that you have to have ratified the treaty to be able to vote to convene that conference. If the US were to take position that it is not going to act until India acts, I think it would be a fundamental mistake.⁵¹

Importance of the treaty is that it is a historic treaty. As President Clinton said that it is the longest sought, hardest fought prize in the history of arms control. The attainment of a comprehensive test ban has been a goal of US foreign policy dating back to President Eisenhower, who considered the failure to achieve a CTBT to be one of his main regrets as a President.

The Clinton administration is fully convinced that we are better off with the treaty than without it. The US has made stopping the spread of nuclear and biological weapons a top priority in its relations with Russia, China, Ukraine and other key countries. The President has submitted to the Senate a CTBT to ban nuclear explosives test of any size, for any purpose, in any place, for all time.

Secretary of State Madeline K. Albright in remarks to Stimson Center urged the US Senate to approve the CTBT that would ban all further nuclear tests. She noted that a comprehensive nuclear test ban has been the goal of all US Presidents since Eisenhower. She observes: "Now more than ever, the CTBT is relevant to American security and world peace."⁵² She has argued for an early Senate approval. Despite the South Asian tests, the CTBT remains essential to US strategy to reduce nuclear danger. She further remarks:

And now more than ever, the United States Senate should stop shilly-shallying around and approve it for America. Because if we want

⁵¹ *ibid.*, p.12.

⁵² USIS, Official Text, June 11 1998, p.1.

others to refrain from nuclear tests, and we do, others will want us to promise the same, and we should. On this crucial issue, at this perilous time, our leadership should be unambiguously, decisive and strong.⁵³

Republican Arlen Specter of Pennsylvania warned that "... failure by the US Senate to ratify the treaty may give rise to an inference that the US government is not serious about banning nuclear testing and may, in effect, encourage or at least not discourage such testing."⁵⁴

Daryl Kimball, Executive Director of Coalition to Reduce Nuclear Dangers considers CTBT an essential step towards nuclear abolition. He observes:

The problems identified by India and by the nuclear abolition movement are not caused by the CTBT, which was-and still is-particularly inconvenient for India's nuclear ambitions. Nor will the problems of continued possession of nuclear weapons and the development of new nuclear weapons by the US and the other NWS be solved by opposing the CTBT in its current form. The current impasse on nuclear disarmament as typified by the stagnant START process, cannot be broken simply by demanding commitments to a disarmament schedule in a test ban treaty from government leaders of nuclear weapon states, who do not accept the concept of nuclear disarmament and who can just barely tolerate the test ban... As President Kennedy said of the CTBT 35 years ago that no treaty can provide absolute security, but it can offer far fewer risks than an unabated, uncontrolled, unpredictable arms race. Because the CTBT can still help prevent a renewed US- Russian arms race and a new South Asian arms race, we should still work hard to ensure its prompt ratification and entry into force. Falling short of this goal can only provide aid and comfort to nuclear weapons proponents worldwide and leave open the possibility that the progress achieved toward a test ban – both real and symbolic – will be lost.⁵⁵

Arguments against Ratification of the CTBT

A succession of Presidents, from Eisenhower to Carter were, explicitly in favour of the CTBT. Yet somehow the opponents of the treaty succeeded in putting it off until in

⁵³ USIS, Official Text, June 16, 1998, p.1.

⁵⁴ USIS, Backgrounder, July 30,1998, pp.1-2.

⁵⁵ Daryl Kimball, "Should we continue to seek Ratification of the Comprehensive Test Ban Treaty", *Medicine and Global Survival*, p.3-4 available at <http://www.mars.healthnet.org/mgs/V5N2CTBTForum.html>

1981 they were able to persuade President Reagan to relegate it to the status of a 'long-term objective.' The opponents of CTBT are found in Department of Energy and are supported by Department of Defence and in particular Joint Chiefs of Staff. The opponents argue that there are hosts of substantive reasons why Senate should defer consideration of this complex and far-reaching arms control treaty:

- **Tests are needed to maintain a stockpile of reliable, safe and effective nuclear weapons:** The state of weapons in the stockpile can only be assured by periodic explosive tests.⁵⁶ The conclusion of non-partisan panel of scientists, chaired by Stanford University scientist Sidney Drell, in a report submitted to the House Armed Services Committee in 1990 was that explosive testing was necessary for continued confidence in the reliability and safety of nuclear weapons. Drell now chairs another study group (Jason Study Group), which has reached the opposite conclusion. The Jason Report concludes that test are no longer required to maintain a stockpile of safe, reliable and effective nuclear weapons. However, even the Jason study hedges on the question of adopting an outright ban on testing. It concludes that continuing tests of nuclear weapons below the kiloton level can add to long-term stockpile confidence and that unforeseen problems might require the US to withdraw from a CTBT.

In this regard Dr. James McNally observes that there is no substitute for nuclear testing when it comes to ensuring the safety and reliability of the US deterrent. Only actual testing can prove with certainty that judgement in modeling and extrapolating from laboratory experience works. The presence or absence of a Cold War is irrelevant. A 'withdrawal clause' does not constitute sufficient protection from declining technical confidence⁵⁷.

To determine whether the CTBT will undermine America's nuclear deterrent, the Senate should find out whether the DOE and national laboratories will be able to guarantee the safety, reliability, and effectiveness of America's nuclear arsenals

⁵⁶ Baker Spring, "Will America Remain A Nuclear Power? Implications of Clinton's Nuclear Test Ban", available at <http://www.heritage.org/library/categories/netsec/em427.html>, p.1-2.

⁵⁷ Dr. McNally, "Nuclear Scientist Provides Welcome Insight Into Reasons for Rejecting Comprehensive, Test Ban", *The Center for Security Policy Decision Brief*, October 14, 1997, available at <http://www.security.policy.org/papers/1997/97-D152.html>

without the option of testing. Such a guarantee will rest on the success of SSMP, while those knowledgeable about nuclear weapon requirements and optimistic about the future success of the SSMP, they are not certain of a positive outcome. On August 11, 1995, in White House briefing, the President stated, "While I am optimistic that the Stockpile Stewardship Maintenance Program will be successful, I cannot dismiss the possibility however unlikely, that the program will fall short of its objective".

- **US will need to develop new nuclear weapons:** The Minuteman III Inter-continental ballistic missile (ICBM), which is the only ICBM, the US will retain after the implementation of START-II. If there is no further testing, the Minuteman III will never be replaced with a new missile. The modern MX missile will be dismantled under START-II. A new missile will be required simply to replace the aging Minuteman III. It will be needed for another reason also. New missile designs will be more accurate and this will make them very lethal against hardened military targets.

To emphasize the same point Kathleen C. Bailey, a senior fellow at Laurence National Laboratory who also served as Assistance Director for non-proliferation at the Arms Control and Disarmament Agency (ACDA) remarks that US would need to modernize its nuclear weapons. She observes:

There might be need to increase safety measures. We can't say what new technologies will be discovered in the future that would greatly enhance the safety of nuclear weapons. It's like saying in 1949 we didn't know that air bags for automobile would come along in the 1990s, well the technology, that was unknown then. Technology marches. You find out later that there is new discovery that you could apply to an old problem of safety and you need to be able to test to implement that. Modernization may be needed for new requirements. We say that we don't have any current new requirements that would make us need a new design or testing. But that might change. For example, Desert Storm taught us that we need to be able to strike deeply buried targets, such as hardened underground bunkers, and we modified B-61-11 bomb. There may be further instances in which we would need to have a new or redesigned bomb⁵⁸.

⁵⁸ Kathleen C. Bailey, "The CTB Treaty and Nuclear Non-Proliferation: The Debate Continues," *Arms Control Today*, vol. 28 no.2, March 1998, p.11.

- **The US nuclear arsenal serves as a barrier to proliferation, not as an incentive:** US allies like Germany and Japan are less likely to desire nuclear weapons as long as they view the US nuclear guarantee as viable. Confidence, in this, is essential for allies and friends: if they doubt US nuclear capability, they might feel compelled to develop their own nuclear weapons. One of the measures of this viability is the safety and reliability of the US nuclear force, and this requires testing. The administration asserts that barring nuclear tests in the US will prevent the proliferation of nuclear arms around the globe. In fact, a test ban will spur proliferation.
- **Adequate verification cannot be assured:** The Administration assumes that a CTBT can be verified: But CTBT is not verifiable. The failure of US Intelligence to detect Indian tests preparation raise questions about the ability of the CTBT regime to monitor the treaty. Doubts have been raised that while CTBT can identify tests down to one kiloton equivalent and with less confidence to considerably low levels, there will always be a range of yields above zero that cannot be detected. The IMS of the CTBT is expected to provide the ability to detect, locate and identify non-evasive testing of one kiloton or greater. Thus it is clear that the monitoring system will not be able to detect 500 tons, upto a kiloton. However, a nation may conduct a nuclear test, which could allow several kilotons to be tested with little or no risk of detection. This can be done by de-coupling⁵⁹. Senate majority leader Trent Lott said that the tests show their irrelevance of US action on the (CTBT)... American policy should shift from a misguided focus on an unverifiable and ineffective treaty that precludes maintaining the safety and reliability of the nuclear weapons. Most nuclear tests can be detected through seismic sensors. But these sensors are not likely to be sensitive enough to detect a secret test.

⁵⁹ De-coupling is detonation of a device in a cavity that can reduce the seismic signal by as much as a factor of 70. This means that a pilot on explosion would made to be look seismically like a 14 ton explosion fully coupled. For example, the nuclear test conducted at Tatum Salt Dome on December 3, 1996 had yield of 380 tons, but the apparent seismic yield was only 5.3 tons. Thus Salt Dome de-coupling effect made the test look much smaller. An unclassified intelligence community report says, "the decoupling scenario is reliable because the worldwide mining and petroleum literature indicates that construction of large cavities in both, hard rock and salt is feasible, with costs that, would be relatively small compared to those required for the production of nuclear device."

- **The Senate will not consent to its ratification:** In August 1995, the Senate voted by a margin of 56 to 44 to find the sort of test the Clinton policy and a CTBT would ban. Senate consent to ratification of a CTBT will require 67 votes. This means that President Clinton will have to find 23 more votes in the Senate to support his desire for a CTBT. Even if the CTBT were ratified, it would not impose global ban on testing. No country would be compelled to sign the treaty and even conducting very low yield test that could not be verified. Thus it will impose a unilateral ban on US. It is also argued that Russia, China, Iraq, Iran, Syria and North Korea, to name a few, view arms control agreement and multilateral export control initiatives with cynical division. If the US wishes to subject itself to such limitations and prohibitions, so much the better; they will not follow suit – even if obliged to do so by virtue of being parties to such accords.⁶⁰
- **The denial of the right to conduct nuclear test is irrelevant to other countries' determination to perform some of its own:** Opponents of the treaty argue that the CTBT's champions are hoping against hope that India will now, having completed its first nuclear tests in over twenty years, agree to give up its right to do so in the future and sign on to a Comprehensive Test Ban, they have strenuously opposed in recent years. It may well be so. But if they do it will simply mean that the Indians have decided – as the Russian and Chinese evidently have – that thanks to the CTBT's unverifiability, they can perform covert nuclear tests with imprints should the need arise. India's recent nuclear tests make it clear that the CTBT will not enter into force in the foreseeable future⁶¹. India proved that it does not feel constrained from conducting nuclear tests. For the treaty to move forward as if India's tests have not occurred would give other states an incentive to test nuclear weapons as quickly as possible. He further observes, "If India does not become a state party to the treaty it cannot enter into force for years to come – by some estimates as many as ten years.

⁶⁰ "India's Nuclear Test Demonstrate the Bankruptcy of Clinton's so-called Non-Proliferation Policy", *Center for Security Policy Decision Brief*, May 12, 1998, p.1, available at <http://www.securitypapers.org/papers/1998-D-82.html>

⁶¹ Baker Spring, "India's Nuclear Test: Show Folly of Rushing Test Ban Treaty", *Backgrounder*, May 21, 1998 available at <http://www.heritage.org./library/backgrounder/bg//83.html>

There is no reason why the US should be rushed into ratifying this accord when, by its own terms, it cannot come into effect.”⁶²

- **No international consensus:** There is no real international consensus, let alone a firm one, committed to stopping the proliferation of WMD. To the contrary, with the notable exception of the United States and a few (but not all) of its democratic allies, most of the major parties to accords like the CWC and BWC and NPT are seeking to acquire prohibited capabilities, assisting those who are in doing so or both.
- **Test are needed in national security interest:** It is observed that the Clinton Administration is deluding itself and misleading the American people by hyping these (CWC, BWC and NPT) and similarly well intentioned accords for countering WMD proliferation. Doing so is every bit as disingenuous as President Clinton’s endlessly repeated falsehood that there are no missiles pointed at America’s children when, in fact, there is every reason to believe there are lots of them aimed at this country—backing thousands of nuclear warheads.⁶³ Indeed, there are powerful reasons for US not to become committed to a permanent cessation of nuclear testing. This concern is not alienated by President Clinton’s pledge that he would be ‘willing to consider’ withdrawing from the CTBT in order to perform nuclear tests if his military and scientific advisors decided that a resumption of testing was required.
- **Expertise of Technical Staff:** It is argued that the competence of personnel engaged in nuclear programmes may only be assured if they are able to carry out tests from time to time.
- **Military Effectiveness:** If a nation’s security policy is based on the possession of nuclear weapons, nothing should be done that might detract from their effectiveness.
- **Arguments against ratification are also because of support to India’s stand:** There are some in US who support India’s stand and are against ratification. According to Victor W. Sidel, Professor of Social Medicine, Montefiore Medical

⁶² “India’s Nuclear Tests Demonstrate the Bankruptcy of Clinton’s so called Non-Proliferation Policy”. *The Center for Policy Decision Brief*: May 12, 1998, available at <http://www.securitypolicy.org/papers/1998-D82.html>

⁶³ *ibid.*, p.1.

Center, abolitionists should not support the CTBT in its current form. He observes, I have come to agree with India's long-held position that a CTBT without a time bound framework for abolition may be a step backward.⁶⁴In this regard McKinzie also observes:

This (CTB) treaty bans any nuclear weapons test explosion or any other nuclear explosion, but the US claims that "sub-critical" explosions and inertial confinement fusion explosions as well as computer simulations—central components of the so called Stockpile Stewardship and Maintenance Program (SSMP) – are permitted and is conducting such tests.⁶⁵

He further argues that without a real move by the NWS towards the abolition of nuclear weapons, the CTBT in its current form permits continued vertical proliferation by the NWS, helps to maintain the NWS monopoly, is provocative to the nuclear have-nots and may actually intensify the nuclear arms race.

NEED FOR A SHIFT IN THE US NUCLEAR POLICY

During the Cold War, nuclear deterrence was the bedrock of US strategy for preventing both nuclear war and major conventional war because a more effective alternative was not apparent. The adversarial US-Soviet relationship made it seem imprudent to rely on good intentions to preclude nuclear attack or massive conventional assault. The character of nuclear weapons and the diverse means for delivering them meant that attempts to defend the US or its allies against nuclear attacks on their population could be overcome with much less effort than would have to be invested in the defense.

Nuclear deterrence as practiced by the US in the post Cold War security environment is deterrence to the core function of deterring nuclear attack or coercion by

⁶⁴ Victor W. Sidel, "Should We Continue to Seek Ratification of the Comprehensive Test Ban Treaty?" *Medicine and Global Survival*, 1999, p.2 available at <http://mars.healthnet.org/MGS/V5N2CTBTForum.html>, p.1.

⁶⁵ McKinzie MG, Cochran, TB, Paire CE, "Explosive Alliances: Nuclear Weapons Simulations Research at American Universities", (Washington D.C.: National Resources Defense Council 1998), available at <http://mars.healthnet.org/MGS/V5N2CTBT Forum.html>.

threat of nuclear attack, against the US or its allies. That is, the US would not threaten to respond with nuclear weapons against conventional, chemical or biological attacks. Committee on International Security and Arms Control (CISAC) has observed, “In all likelihood the US will consider it necessary to continue to rely on the core function of nuclear deterrence as long as nuclear weapons continue to exist in the possession of states that might consider using them, against it or its allies”.⁶⁶ But the size and scope of the efforts deemed necessary by the US and others to fulfill the core function presumably will shrink in parallel with the declining plausibility that any state would be mounting a nuclear attack on anyone.

The Committee also concluded that US should pursue a two- part program of change in its nuclear weapons policy. The first part of the program is a near-and midterm set of force reduction, together with accompanying changes in nuclear operations and declaratory policies and with measures to increase the security of nuclear weapons and fissile materials worldwide to diminish further confrontational and potentially destabilizing aspects of force postures. The second part of the program is a long-term effort to foster international conditions in which the possession of nuclear weapons would no longer be seen as necessary or legitimate for the preservation of national and global security.

Nuclear force reductions and changes in nuclear operation would increase US and global security in important ways. First, reducing forces will decrease the continuing risk of accidental, erroneous, or unauthorized use of nuclear weapons for many reasons. Second, reductions will help persuade the other declared and undeclared Nuclear Weapon States to join the arms control treaty. This would shift the focus of US nuclear policy. While preserving the core function of deterring nuclear aggression, nuclear forces would be reduced, their roles would be more narrowly defined, and increased emphasis would be placed on achieving higher standards of operational safety.

⁶⁶ “ The Future of US Nuclear Weapons Policy”, Committee on International Security and Arms Control, National Academy of Sciences (National Academy Press, Washington D.C., 1997 Also published *Arms Control Today*, vol.26, no.5, May 1997, pp.4 –20.

During the Cold War, reducing the risk of a surprise attack appeared to be more important than the risk generated by maintaining nuclear forces in a continuous state of alert. With the end of that era, the opposite view is now more credible. This has important implications for US nuclear policy and calls for dramatically reduced alert levels. Changes in US nuclear weapon policies have to reflect the realities of the post-Cold World War. The core mission of US nuclear weapons should be to deter the use of nuclear weapons by others.

The end of the Cold War has created conditions that open the possibility for serious consideration of proposals to prohibit⁶⁷ the possession of nuclear weapons. The main aim of US nuclear policy is that it should “find ways to discourage all parties from building the massive arsenals that were held by the United States and Soviet Union during the Cold War. The world does not need another half century anxiety about the triggering of Armageddon, either on a global level or regionally.”⁶⁸

Right after India-Pakistan nuclear tests, Karl Inderfurth in detailing US policy towards India and Pakistan at Senate said that the US approach would focus on “an immediate end to provocative steps”⁶⁹ such as further nuclear testing and weaponisation efforts; CTBT, FMCT; and reaffirming the NPT regime. Strengthening its nuclear policy would include:⁷⁰

- **Engaging the Undeclared Nuclear States:** This would entail regional agreements not to deploy, use or threaten to use nuclear weapons or nuclear-capable ballistic missiles together with continued efforts to engage India and Pakistan in global

⁶⁷ The word ‘prohibit’ rather than ‘eliminate’ or ‘abolish’ is used because the world can never truly be free from the potential reappearance of nuclear weapons and their effects on International Politics. Even the most effective verification system that can be envisioned would not produce complete confidence that a small number of nuclear weapons had not been hidden or fabricated in secrets. More fundamentally the knowledge of how to build nuclear weapons cannot be erased from the human mind.

⁶⁸ Harold P. Smith and Richard S. Soll, “Challenges of Nuclear Stockpile Stewardship Under a Comprehensive Test Ban” *Arms Control Today*, vol.28 no.2 March 1998, p.6.

⁶⁹ USIS, Official Text, June 4, 1998, p.1.

⁷⁰ “The Future of US Nuclear Weapons Policy”, Committee on International Security and Arms Control, National Academy of Sciences, National Academy Press (Washington D.C. 1997), p.66.

initiatives, including the CTBT and the FMCT, as well as on the civilian production and use of fissile material.

- **Strengthening the non-proliferation regime:** Article VI of the NPT commits the signatories to work in good faith towards nuclear disarmament. Achieving nuclear disarmament would require an international political order in which the possession of nuclear weapons would no longer be seen as legitimate and necessary for the preservation of national security. This would include a continuing effort by the US and other NWS to reduce, systematically and progressively. Completion of the text of CTBT represents a major non-proliferation achievement. Although the treaty cannot enter into force without adherence of India, the barrier against entry into force can be overcome by persuading India to sign by relaxing the rigid entry-into-force requirement, which was included at the insistence of China, Russia and United Kingdom.
- **Reassuring States that forego nuclear weapons (No-First-Use):** The US has not reassessed the array of positive and negative security assurances and guarantees it provided during the Cold War in order to bring these obligations in line with the dramatically changed international conditions. To this end, the US should announce that the only purpose of US nuclear weapons is to deter nuclear attacks on the US and its allies, adopting no first-use for nuclear weapons as official declaratory policy. In the post-Cold War era, when non-proliferation is a high priority and the credibility of nuclear power's commitment to Article VI of the NPT is crucial to maintaining the international consensus behind the regime, a US no first-use pledge could help remove both reasons and excuses for proliferation.
- **Responses against Aggressive States and Terrorists:** Current US policy tries to isolate those it considers aggressive states and, with varying degrees of success, attempts to persuade the international community to do the same. The continuing sanctions on Iraq in the wake of the Gulf War reflect an international consensus that Iraqi behavior is still unacceptable. US efforts to persuade the international community that Iran deserves a similar isolation have not succeeded. In reality, most countries, including the US do not maintain consistently strict non-proliferation

standards because non-proliferation concerns must compete with other bilateral or multilateral foreign policy interests. But US interests would be best served by keeping up and pressurizing others to maintain high standards in the handling of all nuclear technology exports to non-members of the NPT and to specific aggressive states.

- **Responses Against Chemical and Biological Weapons Proliferation:** One contentious area in current US nuclear policy is whether nuclear weapons should be used to deter and respond to the use of chemical and biological weapons (CBW) by states against the US, its military forces, or its allies. Some would have the US enunciate an official policy of responding to CBW attacks with regardless of any negative security assurances to which is committed. Others argue that the US should make no explicit nuclear threat but allow or even encourage political adversaries to assume the worst. This is the policy the US followed in the Persian Gulf War. Former Secretary of State, James Baker, for example, later wrote in his memoirs that at the time he “purposely left the impression that the use of chemical or biological agents by Iraq could invite tactical nuclear retaliation.”⁷¹ Yet neither ambiguity nor an outright policy of nuclear retaliation serves long-term US goals or interests. As the CISAC argued, the US should state that it would use nuclear weapons only to deter and respond to the use of nuclear weapons by others. The US doesn’t need and should not want to employ nuclear deterrence to answer CBW threats. A policy of nuclear deterrence of CBW would provide incentives and easy justification for nuclear proliferation, which is inimical to US security. The US conventional forces offer a formidable deterrent and war-fighting response to CBW. International pressure-United Nations resolutions or sanctions and other means-also can be brought to bear on states claimed to be producing, or about to use, such weapons.

⁷¹ James A. Baker III with Thomas M. Defrank, The Politics of Diplomacy (New York: GP Putnam's Sons, 1995), p.359. This ambiguity was conveyed to Saddam Hussein in a letter from President Bush just before the start of Gulf war. The relevant passage reads: “The United States will not tolerate the use of chemical weapons, support of any kind for terrorist actions, or the destruction of Kuwait’s oilfield and installations. The American people would demand the strongest possible response. (“Confrontation in the Gulf: Test of letter from Bush to Hussein”. The New York Times, January 13, 1991). Despite the US warning, Iraq did undertake destruction of the Kuwaiti oilfields.

INDIAN TESTS AND THEIR IMPLICATIONS FOR THE US

The Indian and Pakistani tests, along with the intensification of changed rhetoric over the Kashmir dispute, seriously threaten to undercut US non-proliferation and regional security interests. The highly charged situation raises the risk of miscalculation by India and Pakistan that could bring about a nuclear exchange. There are several interrelated policy goals for US to persuade India and Pakistan to avoid further tests, ideally by signing the CTBT and to refrain from deploying ballistic missile armed with nuclear weapons. Other goals include getting both the countries to agree to stop producing fissile material and to sign the NPT. Three challenges face the Administration and Congress. First, to find a formula that will in fact appeal to the perceived self-interest of India and Pakistan. Second, to persuade other major powers either to support US initiatives or put forward their own plans that would garner broad international backing. Third, is finding a formula that will allow the Administration and Congress to work effectively to maximize US leverage.

These challenges have to be addressed simultaneously since the Executive Branch may not be able to cooperate effectively with US allies without some latitude in regard to US sanctions. However, the prospect for adopting any legislation that would provide flexibility in the application of US sanctions appears doubtful. Because of the Clinton's Administration is alleged failure to fully apply US sanctions law against China for its transfers of nuclear and missile technology to Pakistan, some in Congress simply don't trust the President enough to want to grant such flexibility. The Speaker of the House implied in a "Dear Colleague" letter that democratic India's action was at least partially justified by its legitimate fears of Chinese capability-capabilities that were said to have been enhanced by the Clinton Administration's transfer of US missile technology to China.⁷² There are various strengths and limitations of current US non-proliferation tools that were adopted to respond to specific proliferation threats:

⁷² The Speaker noted that "this double standard in Administration actions-disregarding China's far more dangerous actions while sanctioning India-is appalling. With one hand the Administration gives China access to sensitive nuclear technology, while the other slaps India for trying to protect itself from, the consequences of this improved technology", Office of the Speaker, "Dear Colleague", dated May 14, 1998.

- **MTCR Regime:** The MTCR is given credit for slowing India's development of the Agni medium-range missile but in the case of Pakistan the regime has not prevented the transfer of M-11 missile technology. The regime is criticized for several reasons. It does not have the legal force of a treaty and has no firm rules and no enforcement mechanism. Some argue that the Administration's readiness to negotiate with China on the lifting of MTCR sanctions and its resort to waivers has undermined their deterrent effort. The focus of US non-proliferation legislation on technology transfers has had some unintended negative consequences.
- **Inherent limitations of Sanctions:** Competing policy goals-such as the desire to facilitate exports, maintain positive engagement with offending states, or promote other national security objectives often have caused US administration to resort to waivers to avoid imposing sanctions, or even to turn a blind eye on apparent violations. The fact that the US has periodically waived or relaxed sanctions in the interest of other foreign policy objectives has gathered criticism about US policy.

US POLICY OPTIONS

Notwithstanding the limitations of its policy tools, the United States still has considerable ability to influence South Asian affairs. Just after the tests, it was pointed that US has following options:

- **Options for promoting CTBT adherence:** Because Pakistan has indicated that it will sign the CTBT if India does so, the chosen policy tools seemingly would have to be of a nature adequate to convince India to cap its nuclear program without conducting any further tests. This will be difficult if India continues to link the CTBT to a nuclear disarmament timetable, but a mixture of incentives and sanctions might convince India that it should sign the CTBT regardless. The US could also consider some kind of a partial accommodation with India's call for general nuclear disarmament on a fixed time frame. Some analysts argue that neither India nor Pakistan will adhere to the CTBT without a serious, practical commitment at least to pursue step-by-step measures to eliminate nuclear weapons. George Perkovich,

Director of the Source World Program at the W. Alton Jones Foundation argues that “... this goal must be clearly and convincingly stated even if the conditions that must be met to achieve it are rigorously and cautiously defined.”⁷³

- **Options for deterring China’s support of Pakistan’s Nuclear and Missile Programs:** US should get China to limit its exports of sensitive materials, technology, and missiles to Pakistan, but the price of Beijing’s strict adherence to its commitment’s could be politically unacceptable to the US. Despite noteworthy setbacks, US officials point to signs of progress in getting China to adhere more fully to its responsibilities.
- **Option to maintain or broaden current sanctions under section 102 (b), the Arms Export Control Act (AECA):** The rationale of this option is that imposition of broad and painful sanctions will serve as an object lesson to other would-be proliferators. US diplomacy under this option would concentrate on getting additional countries to impose sanctions on India and Pakistan. US efforts received a boost in June’ 98 when all of the members of Group of Eight (G-8), meeting in London, agreed to oppose loans to India and Pakistan by International Financial Institutions, except loans “to meet basic human needs.”⁷⁴ This could have unintended consequences such as an economic collapse of Pakistan or rising dependence of Islamabad on Iran or other Islamic States, fuelling an undesirable polarization. Over time, it could lead to a significant breakdown in cooperation with US allies and with Russia and China, since it is questionable how long they will be prepared to maintain their aid suspensions and opposition to IFI loans.⁷⁵
- **Option of maintaining US sanctions while seeking through multilateral diplomacy to freeze Indian and Pakistan programs:** Under this option, sanctions

⁷³ George Perkovich, “India’s Nuclear Weapons Debate: Unlocking the Door to the CTBT”. *Arms Control Today*, vol. 26, no.4, May/June 1996. p.16. Also see “India-Pakistan Nuclear and Missile Proliferation”: Background, Status and issues for US policy, *CRS Report* for Congress December 16 1996, pp.40-46.

⁷⁴ David Buchanan, Mark Nicholson and Farhan Bukhari, “G-8 to Step Up Pressure On India and Pakistan”, *Financial Times*, June 13-14, 1998.

⁷⁵ By way of comparison, the sanctions imposed on China by European countries and Japan after the 1989 Tiananmen Square massacre lasted about seven months.

would be combined with active diplomacy and rewards for desirable behavior. Progress likely would be insufficient to permit the Administration to credibly pursue with Congress the lifting of US sanctions, but combined with a more sympathetic stance on the part of other powers in the G-8 and P5 groupings, the US might still play an effective leadership role. But the disadvantage is that this option could leave US trade competitors in a position to make inroads against US Companies-such as sale of Airbuses to India instead of Boeing Jetliners- without making acceptable progress. India in particular may decline to participate in any negotiations that don't holdout the prospect of nuclear states' status.

- **Option to provide the President the authority to waive current sanctions, in return for specific actions by Indian and Pakistan:** This would give the Administration the ability to negotiate with more credibility than in the case of a simple pledge to seek the lifting or modifications of sanctions by Congress after commitments are obtained from India and Pakistan. But moving too quickly to provide such authority could be read by some as an over-eagerness to compromise for the sake of US domestic interests.

CHAPTER IV

INDIAN PERSPECTIVE ON CTBT

India first rejected the NPT, and then the CTBT. While India always opposed the NPT since its inception in 1968, does it make sense for India to oppose the CTBT finalized in 1996? India had always supported such a treaty ever since it was first considered in the 1950's and 1960's. Indeed India was one of the earliest advocates of this treaty.

India's decision not to sign the CTBT in 1996 is based both on its traditional approach to nuclear disarmament and its national security concern. Yet this decision has often, somewhat reproachfully been viewed by western critics as reversal of India's traditional stand of nuclear disarmament particularly Pandit Nehru's 1954 call for a halt to all nuclear testing. To understand India's position during and after the CTBT negotiations, its necessary to review the historical context of its approach.

A HISTORY OF INDIAN EFFORTS TO BAN NUCLEAR TESTING

India categorically proposed suspension of nuclear weapon tests for the first time on 2nd April 1954 when Nehru urged for some sort of, "stand still agreement in respect, at least, of these actual explosions, even if arrangement about the discontinuance of production and stockpiling must await more substantial agreement amongst those principally concerned"¹. Later a letter delivered by India to the Secretary-General of the UN envisaged suspension of nuclear weapon tests but did not receive enthusiastic treatment. Even after the early setbacks, India continued to make request for the cessation of nuclear weapon tests.

¹ Savita Pande, India and the Nuclear Test Ban (New Delhi: Shri Avatar Printing Press, 1996) p.48.

In a broadcast message on January 1956, Nehru said, “We have put forward Panchsheela and spoken of peaceful coexistence. All this has no meaning if hydrogen bomb pursues its triumphant and malevolent character”.²

From the beginning India wanted a complete ban on nuclear testing. On Partial test ban, India held that it would be valuable, but it is not the solution. In a letter dated 10th October 1964 to the Secretary General the then Indian Permanent Representative to the UN, B.N. Chakravarty said:

It restricted the development of nuclear weapons... but as the treaty did not specifically prohibit manufacture, acquisition, receipt or transference of these weapons, the conclusion of an agreement on non-proliferation of nuclear weapons would be the next logical step after signing of the test ban treaty.³

As the NPT debate picked up, India vociferously opposed the moves of the nuclear weapon powers to deny peaceful nuclear explosions by NNWS. In a statement made in first committee in 1968, the Indian Representatives, Azim Hussain said:

... the conduct of explosions considered necessary for the peaceful purposes should be dealt with an exception and should be under international supervision and with safeguards equally applicable to all. For that purpose an international regime would have to be established for all states.⁴

In discussion for a CTBT, the Indian Representative, Samarendra Kundu said in the May 1978, that a CTBT should not be seen as end in itself but as a means to achieve the ultimate objective of a world free from nuclear weapons. A CTBT should be followed or preferably accompanied by other measures, such as cessation of production of fissile material for the weapons etc. Furthermore, India was convinced that a CTBT without participation of France and China, while welcomed as a first step, would not be truly effective. Towards this end, India took initiative like 1978 proposal. The 1978 proposal⁵

² India and Disarmament, Ministry of External Affairs, (New Delhi, 1988), p.54.

³ Quoted in Pande (note 1), p.154.

⁴ Statement by Indian Representative, Azim Hussain in the first committee of UN on November 28,1968, quoted in J.P. Jain, 'Nuclear India' vol. II (New Delhi: Radiant Publishers, 1974) p.222.

⁵ This proposal was made by Morarji Desai UN General Assembly Special Session on Disarmament on June 9, 1978.

was for a ban on nuclear testing, as part of defined program of nuclear disarmament, which outlawed military technology, a time bound program in weapons reduction and signing a CTBT.

In 1980 again, India appealed to the world community in Conference of Disarmament (CD) to see the treaty as part of a complete disarmament process which would be negotiated multilaterally, and to treat the problem not merely as technical (verification) but also as one of political agreement between nuclear weapon states on a moratorium on nuclear weapon tests.⁶

In 1984, India along with Argentina, Mexico, Sweden and Tanzania appealed for a halt of nuclear testing in what was called the 'Six Nation Initiative'. In 1986 the Indian Representative Narayanan said that CTBT claimed highest priority in the concrete program for nuclear disarmament.⁷

In late 1980's India reiterated its demand for halt in nuclear testing by all states in all environments for all time. It repeated its earlier proposals to establish an ad hoc committee, on nuclear test ban to initiate the multilateral negotiation of a treaty. The Indian position on the eve of co-sponsoring the resolution of CTBT was explained by the Indian Ambassador at CD, Satish Chandra thus:

A CTBT has a very important place among all the measures envisaged in the context of nuclear disarmament. The international political climate of today present a golden opportunity to the international community to put once and for all an end to nuclear testing. Positive scope of CTBT has been clearly spelt out in the Preamble of the PTBT of 1963, which recognised that its objective was to seek to achieve the discontinuance of all tests on nuclear weapons for all times. Therefore in the promotion of achievement of a nuclear test ban, the interest of nuclear weapon states must be taken into account on the basis of complete equality with the interest of the non-nuclear weapon states.⁸

⁶ CD/PV/87, June 19, 1980, p.6.

⁷ CD/PV 358, April 22 1986, p.7.

⁸ CD/PV/657, September 3, 1993, pp. 20-21.

In 1988, Rajiv Action Plan proposed ban on production of nuclear weapon grade fissile material and a comprehensive test ban and convention outlawing the use and threat of use of nuclear weapons.⁹

But the recent prolonged and vigorous Indian debate on the CTBT revealed a new trend an emphasis on the security dimension as opposed to the earlier obsession with disarmament. For nearly half a century, normative consideration such as equity, fairness and non-discrimination have been at the heart of Indian nuclear policy. General and complete disarmament has been its principal objectives. In an important shift during CTBT debate, the officials of the Indian government and its negotiators at the CD have also cited national security consideration besides others in opposing an international arms control treaty¹⁰. Pointing to the continued reliance on nuclear weapons by the great powers for their national security, and the nuclearisation of India's neighborhood, New Delhi began to signal to the world that, national security may now become a vital element in India's arms control decision making.

THE INDIAN NUCLEAR POLICY

To understand the Indian view on CTBT, it is necessary to highlight the basic tenet of Indian nuclear policy. In 1947, when a free India took its rightful place in the world, both the nuclear age and the Cold War had already dawned. Instead of aligning with either bloc, India rejected the Cold War paradigm and chose the more difficult path of non-alignment. From the very beginning, India's foreign policy was based on the desire to attain an alternative global balance of power that crucially, was structured around universal, non-discriminating disarmament. Nuclear technology had already transformed global security. Nuclear weapons theorists reasoned that nuclear weapons are not actually weapons of war but military deterrent and tools of possible diplomatic coercion. The basis of Indian nuclear policy therefore remains that a world free of nuclear

⁹ This proposal was made by Rajiv Gandhi at third Special Session on Disarmament on June 9, 1988.

¹⁰ C.Rajamohan, "Non-proliferation, Disarmament and the Security Link" in Deepa Ollapally and S. Rajagopal, eds., The Nuclear Cooperation Challenges and Prospects (Bangalore: National Institute of Advanced Studies, Tyrox Press, 1997) p.15.

weapons would enhance not only India's security but also the security of all nations. In the absence of universal disarmament, India could scarcely accept a regime that arbitrarily divided nuclear 'haves' from 'have-nots'. India has always insisted that security interests of all nations are equal and legitimate.

During the 1950's, nuclear weapons were routinely tested above ground, making the mushroom cloud the age's status symbol. Even then, when the world had witnessed only a few dozen tests, India took the lead in calling for an end to all nuclear weapons testing, but the calls of India's first Prime Minister Nehru, went unheeded¹¹.

India's military and nuclear doctrine continues to be rooted in the political and strategic goals of its defense policy, derived from its core values and vital interests. These include:

- Comprehensive, durable and integrated peace (at the national, regional and global levels) to ensure socio-economic growth and development of India. This will require prevention of war, and formation of co-operative security.
- Safeguarding the territorial integrity and sovereignty of India.
- In case of deterrence failure, an ability to conclude the war at the earliest opportunity on terms most favorable to its national interests.
- Safeguarding vital national interests including access to energy, safety of lines of communication, etc.

Prevention of war and armed conflicts are the central factors shaping strategic doctrine. Hence this will require credible (and affordable, so that burden of policy is kept at the very minimum level and within manageable limits) deterrent capabilities, at the conventional as well as nuclear level.¹² B.M. Jain observes that India's nuclear policy has been 'dual track'. He says:

India's dual track policy of pursuing the nuclear program for peaceful uses and simultaneously retaining the right to keep its nuclear option open is essentially rooted in situational compulsions. In an iniquitous and a

¹¹ Jaswant Singh, "Against Nuclear Apartheid". *Foreign Affairs*, vol. 77 no. 5, September/ October '98 p.42.

¹² Jasgit Singh, Nuclear India (New Delhi: Knowledge World, 1998), p.313.

perpetually dominant – dependent global scheme, the country's core values of sovereignty and autonomy must not be compromised to mollify certain powers.¹³

India's nuclear weapon policy took shape between late 1950's and early 1970's partly in response to a series of shocks-the 1962 border war with China, the 1964 Chinese nuclear explosions, and the 1965 and 1971 wars with Pakistan.¹⁴ The Gandhian conception of international society, and of India's role within it gave way to a harder approach based upon real politic. Security had to rest on power and power on capabilities. A distinctive nuclear paradigm endured in the subsequent years, the attributes of which can be summarized as follows:

- India on its own: India had to be able to look after itself as its history suggested that foreign powers were only interested in subjugation and hence, alliances could not be trusted.
- Nuclear weapons confer status, security and leverage: This was evident from the prominent positions attained by the five NWS since 1945, reinforced by their permanent membership in the UN Security Council. India's desire for status was further heightened by China's increased recognition as a great power after 1964, for security by Pakistan's quest for nuclear weapons after 1971 and for leverage by the perception that a non-nuclear India would remain prone to be being pushed around by the US and other nuclear powers.
- The NPT is primarily an instrument of great power politics and only secondarily an instrument of collective security: NPT and associated trade controls have been developed against the developing world. Also, the NPT confers power on a small minority of states while denying it to the large majority.
- Nuclear weapons are Immoral: Mahatma Gandhi in the last two years of life spoke frequently of the immorality of nuclear weapons. Their Development

¹³ B.M.Jain, Nuclear Politics in South Asia: In Search of an Alternative Paradigm (Jaipur: Rawat Publications, 1994), p.62.

¹⁴ William Walker, "India's Nuclear Labyrinth" *The Non-Proliferation Review*, volume 4- no-1, fall 1996, p.1 available at <http://cns.miis.edu/pubs/npr/walker41.htm>.

was "... deadening the first feeling that has sustained mankind for ages."¹⁵
This strain of thinking survives in India's persistent call for complete nuclear disarmament.

India's nuclear paradigm became associated with three prescriptions. Firstly, that India should develop the option to deploy nuclear weapons. Secondly, that India should become self-reliant in the technologies pertaining to nuclear weapons. Thirdly, capacity to produce weapon grade material should be established.

Over the years, some set of beliefs attained considerable intellectual and operational coherence. It gained solidity from nascent Pakistani nuclear weapons program, from shared interest with countries in the non-aligned movement (such as Argentina, Brazil, Mexico and Yugoslavia), and from the punishment that was meted out to India, particularly in the form of technology denial.

Thus main adjuncts of India's nuclear posture¹⁶ have been:

- Use of nuclear energy for peaceful purposes only.
- Pursuit of the ultimate goal of general and complete disarmament.
- Refusal to sign the NPT, enter nuclear free zone arrangements, or join bilateral or international agreements that are either discriminatory or non-universal.
- Declaration that India's 1974 underground nuclear test was for peaceful purposes and that India retains the right to test again.

By the 1990s, India found itself responding to major changes in the international environment, which if not completely destabilized its nuclear policy, certainly unsettled it. These included the geopolitical changes ensuing the end of Cold War and shifts in the location of economic dynamism; the maturation of Pakistan's nuclear weapon program

¹⁵ Mahatma Gandhi, "Atom Bomb and Ahimsa", Hanju (Poona), July 7, 1946. Quoted in Aabha Dixit, "Status Quo: Maintain Nuclear Ambiguity" in David Cortright and Amitabh Mattoo, eds. India and the Bomb: Public Opinion and Nuclear Options (Notre Dame, Indiana: University of Notre Dame Press, 1976) p.54.

¹⁶ P.R. Chari, "Indian Defense and Security: A cost-benefit analysis of Nuclear Proliferation" in Kathleen C. Bailey, Weapons of Mass Destruction: Costs v/s Benefits, (New Delhi: Manohar Publishers, 1994) p.84.

and deepening of conflict over Kashmir; international developments in arms reductions and non-proliferation policies; and the negotiation and the conclusion of CTBT. Jaswant Singh, Minister of External Affairs observes:

No other country has deliberated so carefully and at times, torturously over the dichotomy between its sovereign security needs and global disarmament instinct, between a moralistic approach and a realistic one, and between a covert nuclear policy and overt one. May 11, 1998 changed that all. Suddenly the strategic equipoise of the post-Cold World War was rattled. The entire non-proliferation regime and the future of disarmament were at the forefront of the international agenda.¹⁷

For years India conveyed its apprehension to other countries, but this did not improve its security environment. This disharmony and dysfunction between global thought and trends in Indian thought about nuclear weapon is, unfortunately, the objective reality of the world. Nuclear weapons remain the key indicators of state power and since this currency is operational in large parts of the globe, India was left with no choice but to update and validate the capability that had been demonstrated twenty-four years ago in the nuclear test of 1974. As Jasjit Singh points out:

The only contingency in which India would require nuclear weapon is to deter another country from holding out a threat of use or possibly even use of nuclear weapons against India. And this would require 'minimum deterrence' in the worst case while 'recessed deterrence' should be adequate for all scenarios less adverse than that.¹⁸

¹⁷ Jaswant Singh, (note 11), p.43.

¹⁸ Jasjit Singh, points out that it is necessary to remember that existing perceptions and concepts of nuclear deterrence have relied heavily on the doctrine of the US and former Soviet Union who relied on the maximum (and aggressive) deterrence paradigm. China constructed its nuclear posture on the doctrine of minimum deterrence and so did France and UK in a narrow sense (the linkage to the NATO had extended the maximum deterrence paradigm to them also). After the Cold War we are now witnessing the shift in the US/Russian doctrine from the maximum toward finite if not minimum deterrence. But China appears to have shifted from a long held minimum deterrence posture towards a limited one. The deterrence posture India has adopted is recessed deterrence that, deterrence can effectively function at levels lower than that of minimum deterrence. Recessed deterrence relies on credible capabilities but the actual weaponisation, is held back in a linkage to actual threat scenario, on one side, and tangible progress on disarmament, on the other. See Jasjit Singh, (note 12), p.309.

INDIA'S RESERVATION ON CTBT

India has never made a secret of its reservation over the CTBT's contents and its overall thrust, not only at the Geneva Conference but also at various other global fora during the last few years. India has made it clear that it was distancing itself from the CTBT in its 'present form'. Within India, the decision to declare unacceptance of the CTBT has found overwhelming favorable response, cutting through party and political lines. Indeed, just as India's refusal to sign the NPT and its rejection to the move to give it a permanent tenure enjoyed national backing, the rejection of CTBT also enjoyed national consensus. It will be no exaggeration to say that, on both NPT and CTBT, India has displayed unanimity in endorsing and supporting the government's nuclear policy and decision arising from it.

In May-June 1996 session of the Conference on Disarmament, India rejected CTBT as it stood on June 20, 1996. The decision to reject the treaty was announced by the Indian Ambassador to CD, Arundhati Ghosh, in Geneva and Indian Foreign Secretary in India. If the NPT was one sided, discriminatory and favored the nuclear weapon states, India thought that the CTBT was even more inadequate in safeguarding its security interests. It remained consistently opposed to the India's major concerns. The NPT's renewal in 1995 without any change illustrated the Indian perception that no real progress had been made regarding nuclear disarmament and the discriminatory nature of nuclear non-proliferation regime.¹⁹

The five declared nuclear weapons power arrived at a CTBT draft that was neither comprehensive in terms of banning all types of nuclear testing, nor was the fine print meaningfully cognizant of the commitment to global disarmament. India, which was projected as a co-sponsor with the US of the CTBT in 1993, and the earliest advocate of

¹⁹ There are three major areas of unfairness. Firstly, the 'haves' would be free to improve their nuclear arsenals, both in quantity and quality. The 'have-nots' would be prohibited from the military research. Secondly, the NWS did not have to submit to safeguards, while others would have to submit even when engaging in peaceful nuclear activities. Thirdly, all transfer of any nuclear technology was subject to safeguards for the non-nuclear weapon states, while no transfers of the nuclear weapon states were affected. The Indian representative at the NPT talks in 1969 remarked that the institution of such international controls was 'like an attempt to maintain law and order in a society by placing all its law-abiding citizens in custody, while leaving its law breaking elements free to roam the streets.'

the idea of a test ban going back to 1954, found itself at variance with the US-led consensual draft of the CTBT. As one Indian analyst, Uday Bhaskar has noted:

.... (at the CTBT negotiation) the pattern that emerged was familiar, the five declared nuclear powers were enshrining yet another regime (the CTBT) to protect their own interests and this was being packaged as being in the larger collective good and a cynical arms control agreement was being projected as a disarmament panacea....²⁰

India argued that this approach would give it only a nuclear weapons test explosion treaty and not a 'Comprehensive' test ban treaty. The nuclear weapon states are determined to continue to rely on nuclear weapons for their security and visualize the CTBT not as a serious disarmament measure, but merely as an instrument against horizontal proliferation. Nuclear weapon states seemed loath to relinquish their monopoly and regard nuclear weapons as integral to their military strategy.

India's objections on an issue by issue basis can be summarised as:

Preamble: The preamble is effectively the disposition that generally states on the treaty intent and the political aspirations that underpin it. The preamble of the draft was intended to set the political context of the treaty. India suggested with regard to preamble, that a clear linkage to nuclear disarmament and elimination of nuclear weapons should be established. In addition, the norms of non-proliferation and disarmament should be strengthened by a non-use agreement.

In 1994, the preamble consisted of 18 hastily cobbled paragraphs, which had been reduced to 15 by 1995. Following its decision on 5 September 1995 to accept the wording on the ultimate goal of eliminating nuclear weapons included in the 'Principles and Objectives', agreed to at the NPT Conference in May 1995, China dropped its insistence on commitment to thorough nuclear disarmament or the complete prohibition and thorough destruction of nuclear arms at an early date in two other paragraphs. This resulted in dropping of paragraphs referring to the special responsibility of the nuclear weapon states and to the need for further reductions of tactical and strategic nuclear weapons. However, India opposed any reference to the NPT, of which it was not a party,

²⁰ Uday Bhaskar, "Nuclear Test" in Jasgit Singh (note 12), p. 254.

requesting the retention of other paragraphs on nuclear disarmament. As far as Indian opposition to preamble is concerned, it opposes any reference to NPT in the preamble. Speaking in September 1994, India's Representative Satish Chandra said, "Since we are not a signatory to the NPT, any reference to the same would not be acceptable to us."²¹ Speaking in September 1995, Ms. Arundhati Ghose, the Indian Representative said, that the preamble of the treaty will have to clearly define the linkage of the CTBT to the overall framework of nuclear disarmament. She further said that the reference on disarmament in the preamble was "woefully inadequate".

China continued its demand for a paragraph urging conclusion of international agreements pledging not to use, or threaten to use, nuclear weapons against non-nuclear weapon states, nor to be the first to use nuclear weapons in any circumstance (no-first-use). This was opposed by the other four nuclear-weapon states. With India unlikely to accept direct references to the NPT, and most of the nuclear weapon states refusing the wording that committed them too closely to nuclear disarmament, it appeared that agreement would have to be based on some formulation developed from the 1995 'Principles and Objectives', but without direct dependence on the NPT.

Ramaker's text presented on 28 May, 1996 portrayed a balance between the demands of non-nuclear weapon states seeking to set the political context of the treaty in disarmament background and that of the nuclear weapon states opposing reference to a time bound framework. The preamble was specifically mentioned as an item for discussion in the reviews of the treaty. The key paragraph reads:

Convinced that the cessation of nuclear weapon test explosions and all their nuclear explosions by constraining the development and qualitative improvement of nuclear weapons and ending development of advanced new types of nuclear weapons, constitute an effective measure of nuclear disarmament and non-proliferation in all its aspects.²²

The preamble did not describe ending the qualitative improvement and development of nuclear weapons as the 'principle objective' of the treaty, a phrase strongly opposed by UK, nor does it include elimination of weapons 'within a time bound

²¹ CD/PV/690 September 1, 1994, p.36.

²² *Basic Papers*, May 30 1996, p.1.

framework' as demanded by India or references to the cessation of nuclear testing 'within the framework of an effective nuclear disarmament process', another compromise sought by non-nuclear weapon states.

The preamble includes language, which clearly roots out PNE's. The preamble also excludes language proposed by China urging the NWS to conclude international agreements on 'no use' or 'threat of use' of nuclear weapons against NNWS or nuclear weapon-free zones and 'no-first-use' of nuclear weapons against each other.

Entry into Force (EIF): A proposal was also made to modify the EIF clause. Here there were two distinct issues: firstly, the number of countries²³ required to ratify the CTBT for it to enter into force; and secondly, India's proposal that the treaty would not enter into force unless the NWS made a commitment to eliminate their nuclear weapons in a specific, through negotiated time frame. The proposal was rejected by the NWS and no effort was made to find an alternative formulation that might have met this concern. The Chairman's text merely dropped India's proposal without explanation.

The US initially appeared interested in tying only the NWS in the entry into force provision and appeared flexible otherwise. The United Kingdom, Russia, China, and for obvious reasons, Pakistan and Egypt, insisted on a formula that included the NWS and the three so-called nuclear threshold states – India, Israel, and Pakistan. Other countries, in fact the majority, wanted a simple numerical formula that would enable the CTBT to come into effect early, without any one country being able to hold it hostage. This was the stand India supported; it had no wish to hold the treaty hostage even if it had decided not to sign it.

The objection stemmed from the demand of some states that the treaty could come into force only after forty-four countries (listed by IAEA) with ongoing nuclear research and power facilities ratified the treaty. India has both, and is included in the list. This left India with no choice except to block the treaty. Again, although the arguments

²³ The treaty will enter into force 180 days after 44 specific nations deposit their instruments of ratification with the UN. If the treaty has not entered into force by September 24, 1999, the nations that have deposited their instruments of ratification may convene to consider and decide what measures consistent with international law may be undertaken to accelerate the ratification process in order to facilitate the early entry into force of this treaty.

against the 'entry into force' clause were questioned on the grounds of fairness, India's interest in challenging the clause was purely pragmatic. As a state with an ongoing but largely untested nuclear weapons program, India would come under enormous pressure to accede to the CTBT.²⁴ On the 'EIF' requirement, Arundhati Ghosh said, "We don't accept any language in the treaty that would affect our sovereign right to decide whether we should or should not accept the treaty".²⁵

One of the two threshold states, Israel already indicated it would sign, and Pakistan also said it would sign if India did. Thus force of the objection of NWS was concentrated on India.²⁶ After India indicated its inability to sign the treaty unless its concerns were taken on board, the incorporation of 'EIF' clause clearly aimed at pressurizing India to sign a treaty that it considered to be against its national interests.

India, was the only significant dissenter in Geneva, on the issue of EIF clause. Ultimately India demonstrated its ability to be a 'resistant' power as opposed to being a 'revisionist' power.²⁷ Unwilling to compromise on its core interests and values, New Delhi blocked the CTBT draft in the CD. In an unprecedented move, the US-led western alliances with the support of other nuclear weapon powers, took the CTBT of CD and had it passed in United Nations General Assembly in New York. This was an undesirable resolution of a complex impasse but in a way it reflected real politic consideration at play in the post-Cold War world.

It was evident, that the US was keen to pursue its global agenda of non-proliferation and CTBT and FMCT were seen as means of locking every one on the 'learning curve', wherever they were and preventing any further horizontal nuclear proliferation as attempted under the NPT. Thus the US in the furtherance of its global agenda appears to have arrived at a consensus with the nuclear powers particularly China,

²⁴ Sumit Ganguly, "India's Pathway to Pokhran II" *International Security*, vol.23, no. 4 spring 1999, p.169.

²⁵ In this case, customary law was breached. According to the 1969 Vienna Convention on 'Law of Treaties', no state can be coerced into signing a treaty, nor can a treaty's entry into force made conditional into signing a treaty, nor can treaty's entry without that country's consent.

²⁶ Arundhati Ghosh "Negotiating the CTBT: "India's security concerns and Nuclear Disarmament", *Journal of International Affairs*, summer 1997vol.51, no.1 p.257.

²⁷ Bhaskar (note 20) p.254.

Russia and the UK to fetter India as far as EIF was concerned. In this regard, Spurgeon M. Keeny Jr., President and Executive Director of the Arms Control Association said, “This (EIF) stringent requirement was insisted on by China, Russia and Britain, ostensibly to pressure India into joining the treaty.”²⁸

Thus EIF became the death-knell of the treaty. The EIF clause envisioned a preliminary signing with an international conference coming two years after, to ratify the treaty. India demurred, refusing to be held solely accountable for the treaty’s failure. India has maintained that the EIF debacle suggests that many nuclear powers, coerced into supporting the treaty by the US, were trying to use India’s rejection as an excuse to dismantle the treaty. The sincerity of those who are pretending to be high priests of the test ban are questionable, stated former Indian Prime Minister I.K. Gujral. As the saying went at the CD, these countries were ‘hiding behind the Indian sari’.²⁹

Scope of the Treaty: Scope relates to what types of nuclear tests are to be banned. It is the backbone of the treaty, determining what shall be prohibited or permitted. In India’s view, scope of the treaty should be to prevent the testing of nuclear weapons and thereby to inhibit in a non-discriminatory way, proliferation of nuclear weapons in their horizontal as well as vertical dimensions.

In 1993, India said that a treaty on nuclear test ban, to be comprehensive, in character should have three essential characteristics, namely:

- It should cover all states including, the five nuclear weapon states.
- It should extend prohibition on the testing of nuclear weapons to the underground as well.
- It should do so for all the time.

Towards preparatory activities, India’s stand was that preparations, which make a nuclear weapon explosion imminent should certainly be within the scope of CTBT.

²⁸ Spurgeon M. Keeney, Jr. and Craig Cerniello, “The CTB Treaty; a Historic Opportunity to Strengthen the Non-proliferation Regime”, *Arms Control Today*, August 1996, vol. 26, no.6 p.6.

²⁹ Vikas Kapur. “Nuclear Empowerment: Understanding India’s Refusal to Sign the Test Ban”, available at <http://www.digitas.harvard.edu/~pesrpy/issues/1996/oct/india.html>

However, research and scientific activity related to peaceful uses of nuclear energy need not necessarily be targeted. It is essential therefore to work out a clear definition of preparatory activity that needs to be covered.

India's objections extend to the non-explosive testing which was not covered in the text of treaty. India's objection is that the treaty will allow sub-critical tests and computer simulations to design fabricate and test new types of warheads. The treaty will in reality legitimize a new qualitative arms race. This objection was most substantive as it dealt with the treaty's allowance of low yield tests or HNEs and computer simulation tests. In the Indian view, the failure to close these two technological loopholes undermined the larger goal of taking steps towards the elimination of nuclear weapons.³⁰ NWS argued that these tests would be useful in ensuring safety and reliability of stockpiles but critics apprehended that they could also assist in the nuclear weapons development. India said that no test should be carried out under the pretext of safety purposes. The ban should not establish any thresholds on testing. The nuclear weapon states have reached various levels of technological capabilities to enable them to keep improving their arsenals and develop newer weapons. Since US is ahead of others, it seeks now to freeze further qualitative development of other's nuclear arsenals (especially of China and Russia) in pursuit of its national interest besides 'capping' capabilities of countries like India. Emphasizing this point, Pranab Mukherjee, the then External Affairs Minister, during the 50th Anniversary celebration of the UN said:

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. Development of new warheads or refining existing ones after the treaty is in place, using innovative technologies, would be as contrary to the spirit of the CTBT as the NPT is to the spirit of non-proliferation.³¹

In June 1995, India put forward the following proposal to define the text in a working paper, CD/NTB/WP 244. It said:

³⁰ Ganguly, (note 24), p.169.

³¹ Disarmament Times, Oct 11, 1995, p.2.

- Each state party undertakes to prohibit and to prevent and not to carry out any nuclear weapon explosion or any other nuclear test or any release of nuclear energy caused by the assembly or compression of fissile material by chemical explosions or other means, at any place under or beyond its jurisdiction or control.
- Each state party undertakes further move to refrain from causing or in any way participating in carrying out of any nuclear weapon test explosions or any other nuclear weapon explosion.

Speaking in January 1996, Arundhati Ghosh came down heavily on laboratory testing saying:

As the PTBT drove testing underground, we do not wish the CTBT to drive testing in the laboratory by those who have resource to do so. We must ensure that the CTBT leaves no loopholes for activity either explosive based on non-explosive based aimed at continued development and refinement of the nuclear weapons.³²

She further added, that despite India's effort to place the CTBT in a disarmament context through various proposals, the scope only bans nuclear weapon test explosions. It is very narrow and doesn't fulfill the mandated requirement of a CTBT. The Ambassador also said that CTBT must be a truly comprehensive one, that is, a treaty which bans all nuclear testing without leaving any loopholes which would permit nuclear weapon states to continue refining and developing their nuclear arsenals at their test's sites and in their laboratories.³³

India's security Interests: India held that the CTBT did not take care of its security interests. The end of the Cold War has not changed its strategic environment and threat perceptions. Substantially, on one hand, the Chinese threat remains, and on the other hand, threat continues to exist from three 'White' nuclear weapon states as part of the western alliance.

³² Statement by Arundhati Ghosh at Conference on Disarmament, Geneva, January 25, 1996, Quoted in T.T. Poulse, The CTBT and the Rise of Nuclear Nationalism in India (New Delhi: Lancer books, 1996) p.175.

Following Indian Atomic test of 1974, Prime Minister of Pakistan Zulfikar Ali Bhutto, had reportedly said that there was a Christian Bomb (US, UK, and France), a Marxist Bomb (Soviet Union and China), Jewish Bomb (Israel's bomb in the basement and now a Hindu bomb (India) but no Muslim bomb. Likewise, India could possibly explain now that there were four 'White' bomb, two 'Yellow' or 'Beige' bomb, but no 'Brown' or 'Black' bomb, an unfair and unacceptable situation.³⁴

The Indian Representative Arundhati Ghosh said:

We cannot accept that it is legitimate for some countries to possess nuclear weapons while denying this right to others. Under such circumstances it is natural that our national security consideration become a key factor in our decision making... Countries around us continue their program either openly or in clandestine manner. In such an environment India cannot accept any restraint on its capability, if other countries remain unwilling to accept obligation to eliminate their nuclear weapons.³⁵

Time frame: In the Cold War years, it was inconceivable to eliminate nuclear weapons. Hence India pursued a more realistic approach to nuclear disarmament and nuclear test ban. Instead of asking for a time bound elimination of nuclear weapons as a pre-condition to the signing of the CTBT, as it is doing now, India stated that the cessation of explosions would serve as an important initial step in nuclear disarmament which might make subsequent steps less difficult.

A time bound elimination of nuclear weapons, figured for the first time in India's stand at the UN General Assembly, when Mrs. Indira Gandhi, India's Prime Minister in her message to the second Special Session on Disarmament on 11 June 1982, suggested that all NWS should immediately suspend all nuclear tests and move towards nuclear disarmament and disarmament negotiations must once again revert to the task of achieving a treaty on General and Complete Disarmament within an agreed time frame. In 1988, Prime Minister Rajiv Gandhi reiterated a time bound elimination of nuclear

³³ Arundhati Ghosh in S. Viswam; "Nuclear India's Reservation on CTBT", *The Deccan Chronicle* available at http://www.Webpacewner.com/users/indian_nuke_9/

³⁴ Raju G.C. Thomas, *The nuclear Non-proliferation Regime: Prospects for the Twenty-First Century* (New York: St. Martin's Press, Inc., 1998), p.255.

³⁵ Statement in CD plenary on June 20, 1996, Quoted in Jasjit Singh (note 12), p.6.

weapons as an integral part of the three-stage abolition by the year 2010, in his address to the third UN Special Session on the Disarmament. Rajiv Gandhi's Action Plan envisaged the abolition of nuclear weapons as an obligation under NPT. Significantly, it was not under the CTBT that the time bound elimination of the nuclear weapons has figured for the first time. In fact, it has been structured in the Rajiv Gandhi's Action Plan. In a statement Rao and Clinton in Washington in May 1995 expressed strong support for the progressive reduction of weapons of mass destruction including nuclear weapons. In October 1995, at the NAM Summit in Cartagena, Rao supported the goal of the CTBT in context of obtaining a commitment to universal and comprehensive disarmament.

The position taken by Arudhati Ghosh at the CD, seems to be at variance on two specific points:³⁶

- test ban is seen as an important initial step to nuclear disarmament; and
- time bound elimination of nuclear weapons as an essential architecture of the NPT (as Rajiv Gandhi Action Plan showed) and not to be treated just as an integral plan of CTBT.

She said that the CTBT was only a first step towards complete nuclear disarmament and that the treaty should be securely anchored in global disarmament context and is linked through treaty language to the elimination of all nuclear weapons in a time bound framework.

In a statement at CD in February 1996, India regretted that no progress had been reached on disarmament. The Indian Ambassador to the CD said the intermediate nuclear forces START -I and START -II have inherent time frames and suggested that CTBT should have some time frame.

India felt, the NWS failed to give a commitment to eliminate their nuclear weapons in a reasonable and negotiated finite span of time. India felt in an absence of such a commitment, present treaty would become an unequal treaty retaining the present discriminatory nuclear regime and sanctioning, in effect, the possession of nuclear

³⁶ T.T. Poulouse, The CTBT and the Rise of Nuclear Nationalism in India, (New Delhi: Lancer Books, 1996), p.174.

weapons by some countries for their security, while ignoring the security concerns of other states.

Total Disarmament: Consistent with the ethos, there has been a continuous debate within the country on the issue of total disarmament – both conventional and nuclear. It is not as if the objectives underlying the concept of a global ban on nuclear testing did not find favor within the country. On the contrary, the reservation in respect of the CTBT was precisely on the ground that it did not contain a genuine commitment towards disarmament. And, while announcing its inability to sign the CTBT in the form in which it was drafted, India has presented a strong and credible case in support of its stand.

The Indian stand on the CTBT during negotiations derives from its traditional nuclear diplomacy. Ever since independence, India has tried to harmonize its security with disarmament. It has viewed nuclear weapons as instruments of power and coercion and argued that their presence anywhere in effect, threatens other's security. India therefore, has been demanding their complete elimination. As a result it has drawn a distinction between 'disarmament' and 'arms control.'³⁷ In the words of the Prime Minister Nehru:

The objective of India is disarmament and we regard arms control as a means to achieve. It is a step in that direction. It is important to seek agreement, on arms control measures, especially when we have a situation in which disarmament has become complex problem.³⁸

But he reiterated that arms control is not disarmament and to make it an objective is to abandon the hope of disarmament.

³⁷ During the later part of post-World War II years, particularly on the Western World, the words 'Arms Control' and 'Disarmament' acquired technical meanings. Though the two terms are used rather loosely in both official and private writings, it is helpful to clarify their technical meanings. Disarmament involves the reduction or elimination of armaments or armed forces. 'Arms Control' or 'Arms Limitation' involves limitation on the number of types of armaments or armed forces on their deployment or disposition or on the use of particular types of armaments. 'Arms Control' also encompasses measures designed to reduce the danger of accidental war or to reduce concern of surprise attack. Although the terms are generally thought of in connection with internationally agreed undertakings, they can also be applied to unilateral action of states. Post War negotiations have involved efforts at both arms control and disarmament, but most agreements, actually achieved have technically been measures of arms control.

³⁸ J.P. Jain, India and Disarmament, vol. 1, Nehru Era, (New Delhi: Radiant Publishers, 1994), p.3.

India has, since the beginning of the nuclear age, rejected any move short of universal disarmament. It had joined the 1963 PTBT anticipating that the treaty would reverse the spiraling arms race. But the treaty drove testing underground, belying Indian hopes. It rejected the 1968 NPT as the treaty, which set unequal obligations on the nuclear 'haves' and 'have-nots', thereby discriminating between them. In fact, India during the NPT negotiation was insistent upon an 'integrated' or 'package' solution linking non-proliferation with a variety of other measures like CTBT and FMCT.³⁹

Equally significant is the fact that India had adopted this diplomatic posture despite having developed a nuclear weapons capability. The civilian program was laid down in the year 1948 with the weapons option embedded in it. The peaceful nuclear explosion in 1974 was inadequate for the manufacture of nuclear weapons but it marked significant steps in that direction. Evidence suggests while India was not willing to cross the nuclear threshold, it was also not prepared to accept anything which might cap its nuclear weapons option. Such a posture seems to have combined its strategic imperatives with its disarmament objectives. First, it seems to have been designed to produce 'non-weaponized deterrence'. Second, it avoided one of its adversaries to overtly seek countervailing nuclear capabilities. Third, it implicitly avoided any direct confrontation with the nuclear powers. Lastly, it helped India to continue with its traditional struggle for a nuclear free world.

India, during the CTBT negotiations was concerned whether the treaty that would emerge would effectively prevent proliferation and would ensure the process of disarmament. This approach was epitomized in the language and the spirit of the mandate given to the Nuclear Test Ban (NTB) committee – primarily concerned with the drafting of the treaty.

In 1993 when India co-sponsored a resolution on a CTBT along with the US at the UN General Assembly, it had an assurance that disarmament would be the key to the treaty. At an early stage in the negotiation, India had made its position very implicit. In June 1996, India held that the only credible guarantee against use or threat of use of

³⁹ Shaker, The Nuclear Non-Proliferation Treaty: Original Implementation 1959 – 1972; (Oceana; Inc. 1980), p.552.

nuclear weapons lay in elimination of such weapons. During the CTBT debate, Ambassador Prakash Shah, India's permanent representative to the UN, stated:

(We) cannot permit our option to be constrained as long as countries around us continue their weapons program either openly or in a clandestine manner ... (as long as) nuclear weapon states remain unwilling to accept the obligation to eliminate their nuclear arsenals.⁴⁰

In address to the 39th General Conference of IAEA. Dr. R. Chidambaram said:

We see CTBT as a step towards nuclear disarmament, but the CTBT will be meaningful only if it is linked firmly to the total elimination of all nuclear weapons ... with in a well defined time framework, say within the next ten years. In our considered view there is pressing need for such a disarmament regime which is universal, comprehensive and non-discriminatory. A sincere attempt to reach towards this goal is conspicuous by its absence.⁴¹

It needs to be argued that the NPT was the best possible arrangement under the Cold War condition. The indefinite and unconditional extension of the NPT has effectively killed article VI. K. Subramanyam, a noted defense analyst said that the nuclear powers did not move an inch towards nuclear disarmament during negotiations for 25 years and there is no incentive or compulsions for them to consider serious measure for disarmament. The non-aligned surrendered the only leverage they had, their power to block the extension of the treaty. From now, all non-nuclear weapons states are totally irrelevant for issues relating to nuclear disarmament.

By the end of 1995, there was a general agreement among the P5 in their separate and parallel negotiation on banning only explosive tests. India, aware of the fact that technology would lead to laboratory testing, offered its own definition of nuclear test to broaden the treaty scope. It proposed to prohibit and prevent, and not to carry out any nuclear weapon explosion or any other nuclear test explosions, or any release of nuclear energy caused by the assembly or comprehension of fissile material by chemical explosions or other means. None of the Indian amendment found their way into the draft treaty. The NWS, especially the US appeared more inclined to bring Russia and China

⁴⁰ Statement by Prakash Shah, 50th Session of the UN General Assembly (New York, Set 9 1996) p.5.

⁴¹ Address by Dr. R. Chidambaram, Chairman of Atomic Energy Commission and leader of the delegation of the 39th General Conference of the IAEA, Vienna, September 18-25, 1995, pp.2-3.

within a control regime. The UK and France clearly viewed the CTBT as a non-proliferation measure. All this may suggest that the CTBT process was merely a bargain among the P5.

On January 25, 1996, India reiterated its stand that the CTBT should be a step on the road to nuclear disarmament rather than into a cul-de-sac. Describing the CTBT as a 'charade', former Prime Minister I.K. Gujral said that India's nuclear option is open till the world moves towards abolition of nuclear weapons on the pragmatic basis.⁴² He stated that India remains committed to elimination of all nuclear weapons and bringing forth a genuine and comprehensive nuclear test ban treaty. Gujral demanded that the pact should outlaw not only nuclear weapons testing but also non-explosive techniques for refinement of nuclear weapons, a reference to the part that the CTBT would outlaw all nuclear weapons testing but allows for simulated tests in the laboratory.

India proposed an amendment on the lines of CWC. It said that the CTBT shall enter into force 180 days after the date of deposit of the instrument of ratification by 65 states and not less than two year after its opening for signature. If however, the present text was sought to be retained, India would be reluctantly obliged to object to this text being forwarded to the Plenary for consideration.⁴³ Speaking on the same lines, the Indian Foreign Secretary Salman Haider said in a statement of 1996, "... (we) are even more convinced that CTBT should bring about a halt to qualitative development, up-gradation and improvement of nuclear weapons and should also make the first irreversible step towards genuine nuclear disarmament within a time bound frame work."⁴⁴

India it was stated, had based its assessment on the post-Cold war doctrines of nuclear weapon states which justified use of nuclear weapons against chemical and biological attack, or in a sub-strategic role. Nuclear weapons were being sought as a precaution against future erratic behavior or threat from unspecified states.

⁴² The Hindu, July 14, 1997.

⁴³ Statement by Arundhati Ghosh at the Conference on Disarmament (Permanent Mission of India), July 29 1996, p.2.

India's idea of a CTBT was really a Comprehensive Nuclear Disarmament Treaty (CNDT), or at least the first part of a two-stage process whereby nuclear testing would be banned followed by complete nuclear disarmament. A CTBT and a CNDT were to be inextricably linked.⁴⁵

Clandestine Programs: Another objection is that the treaty will prohibit explosive testing, but will not stop a non-nuclear weapons state (party or nonparty to the NPT) from acquiring weapons. Iraq and North Korea have already demonstrated the inability of existing regimes like the NPT to stop a member state from pursuing a clandestine nuclear weapons program. The danger to the international peace and security of untested nuclear weapons would not be any less than those of tested ones. The user would only need to increase the number of weapons used for greater assurance if there is any uncertainty that a warhead may not work. It should be remembered that the Hiroshima Bomb was untested.

Inadequate verification system: Another objection is that not all steps required to make CTBT comprehensive are effectively verifiable internationally. Political commitments should be included in the treaty terms. Verification of the treaty must be vested in an international system managed by the international community on the basis similar to that of IAEA, if not by IAEA itself. There must not be any role for autonomous 'national technical means' in this process. There is a risk that every time a tubewell is bored in a country, claims on the basis of national technical means (satellite picture etc.) can be made by another country that 'onsite verification' is necessary.

Transfer of Technology: There is no provision to ban transfer of proven nuclear weapon designs and technologies by a nuclear weapon state to another states. What we are seeing as a treaty, which like the NPT, will be a license to proliferate vertically without effectively banning horizontal proliferation.

The treaty being finalized has no provision to address the problem posed by the transfer of tested design by NWS to another country. Recently, China was accused by US

⁴⁴ Statement by Salman Haider, the then Foreign Secretary of India in Plenary meeting of the Conference on Disarmament (Permanent Mission of India, March 21, 1996) pp.1-2.

⁴⁵ Raju C. Thomas, (note 34) p.285.

of transferring nuclear weapons technology to Pakistan, when ring magnets were supplied in gross violation of Article I and III of the NPT which forbid such transfers. The inability or unwillingness of the US-led international community to take action has seriously weakened the already inadequate non-proliferation regime.

US will not ratify CTBT: US preaches nuclear non-proliferation by the five nations without acknowledging their own failure at disarmament. Even if India and Pakistan sign the treaty, US Senate is not going to ratify it. Signing of the CTBT is widely debated in the US and the debate shows that like earlier treaties- Threshold Test Ban Treaty and Peaceful Nuclear Explosion Treaty- US will not ratify it in the foreseeable future. The US should also strive to sign treaty ending the production of weapons grade fissile material and ensuing no first use policy. Ceaselessly talking about the horror of nuclear weapons and pleading for their abolition at international meetings will not help eradicate the current anachronistic faith in nuclear weapons.

US has given India no assurance: It is for the NWS to provide all security assurances to NNWS against the use of nuclear weapons in an internationally and legally binding form, that is universal and without any qualification or discrimination.⁴⁶ But the draft resolution did not meet the objective of security assurance and the provisions were left vague, which disappointed India.

India has insisted that it will not give up its own deterrent capabilities until the Nuclear Weapon States adopt no-first use policies and legally binding assurance that they will assist any non nuclear nation that is attacked by nuclear weapons. The US has pledged that it will not attack non-nuclear NPT members with nuclear weapons and that it will assist non-nuclear weapon states that have signed the NPT, but it has refused to offer assurances to all nations regardless of their participation in the nuclear proliferation regime.⁴⁷

⁴⁶ CD/PV/680, June 2, 1994 p.5.

⁴⁷ Amy F, Woolf and Ross Kaplan, " Nuclear weapon proliferation: The Role of Security Assurances in Non-proliferation Policy", *CRS Reports* for Congress, September 15,1995 (Washington D.C.: Foreign Affairs and National Defense Division), pp.37-41.

India objects to the double-standard by the US. After India vetoed the treaty it complained that the nuclear powers had been more ready to compromise to meet China's concerns about the treaty than they had been to consider India's. However, China eventually compromised its positions at least as much as did US and other nuclear powers.⁴⁸

Against regional arrangements: Pakistan and India have both ethnic and territorial disagreements with one another. China and India, beyond their territorial disputes, rival one another as regional great powers. Pakistan had proposed a South Asian nuclear-free zone, but India insisted that not only China would have to participate, but that all nuclear powers would have to complete nuclear disarmament.⁴⁹

WHY INDIA CRITICIZES THE US STAND?

Security issues have put the two countries on the opposite sides of the spectrum. The US policy approaches to nuclear and missile proliferation contrast sharply with those of India. While the US sets 'critical priority' to stem the proliferation of weapons of mass destruction and their missile delivery systems, Indian worries have been different. Indian defense policy makers have clearly articulated:

... nuclear weapon states have not shown willingness to engage in a corresponding process of dialogue for the reduction of nuclear weapons. The modernization process of nuclear arsenals of the Nuclear Weapon States continues unabated.... Proliferation of Nuclear weapons and associated delivery systems continue to be a source of concern for our national security. Existing international instrumentalists have proved inadequate in dealing with the problem.⁵⁰

⁴⁸ China abandoned its demand that peaceful nuclear explosions be excluded from the purview of the treaty, on what would trigger on-site inspection of suspected violations, and how many votes would be required in the International Monitoring Commission to require an on-site. By way of contrast, India's demand for a time bound schedule for disarmament was advanced in essentially non-negotiable terms. See "India Pakistan Nuclear and Missile Proliferation: Background, Status and Issues for US." *CRS Reports* for Congress, (Washington D.C.: Foreign Affairs and National Defense Division, December 16, 1996), p.7.

⁴⁹ US Congress, Office of Technology Assessment, "Proliferation of Weapons Of Mass Destruction: Assessing the Risks", (Washington D.C: US Government Printing Office, August 1993), p.108.

⁵⁰ Annual Report, Ministry of Defense, Government of India, 1992-93, p.2.

President Clinton and Prime Minister Narashima Rao issued a joint statement on May 14, 1994 endorsing the pursuit of both non-proliferation and disarmament. Unfortunately, the White House spokesman stated later that he was not aware of any such statement.⁵¹ India criticizes that US do not recognize disarmament as an important goal of CTBT.

The critics of Indian position claim that a commitment to elimination of nuclear weapons is not relevant since the CTBT is only meant to stop testing and is not a vehicle for disarmament. This position would have been more credible if a parallel process of disarmament had been allowed to commence. But India asserts that it is relevant to note that the mandate adopted by the Conference on Disarmament on January 25, 1994, required it to negotiate a treaty which would 'effectively contribute' to the twin goals of nuclear non-proliferation in all its aspects, (that is, vertical and horizontal, qualitative, and quantitative), as well as the process of global disarmament.

In spite of CD's mandate, the treaty proposed by the Ad hoc committee at Geneva fails to meet some basic criteria even in respect of non-proliferation. It will not stop vertical proliferation. On the other hand, there is every reason to believe that it sets the framework for a new qualitative arms race since it doesn't prohibit non-explosive testing or computer generated designs and tests of new weapons. The US has clearly asserted and indicated plans to "maintain the capability to design, fabricate and certify new warheads",⁵² although no production of new warheads may be involved. While the negotiations for a CTBT were in progress, the US finalized an agreement to share data and technology with France to help the latter make qualitative improvement and newer weapons in future without explosive testing. During the same period, the US also cynically awarded a \$ 94 million contract to IBN for supply (by 1998) of ultra super computers to help design and test (without explosion) new nuclear weapons. The then Energy Secretary, Hazel O' Leary reportedly predicated that this would enable scientists

⁵¹ PTI Observer, October 5, 1995.

⁵² Harold Smith, "Assured Confidence in the US Nuclear Stockpile", cited in USIS, Wireless Files, May 31, 1996, p.19.

to solve many technological questions that now can be answered only by physical underground testing.⁵³

There is little doubt that the proliferation issues will continue into the 21st century and constitute an important aspect of India-US relations. India's complaint against US policy is based on its perception that while the US Government doesn't even accept in principle Indian's position on the need to establish a nuclear free world and champions the doctrine of nuclear deterrence for the defense of the continental US, it simultaneously seeks to take away India's right to keep its nuclear options open which is one of the least expensive security guarantees in the light of the country's security requirement. Moreover, while the US talks the least of its own nuclear and missile program barring the ones dismantled with cosmetic effects on disarmament efforts, it seeks to influence New Delhi into accepting its partial arms control and non-proliferation proposals with no consideration of India's strategic compulsions. If US wants India to participate in regional measures, the region should be accordingly defined to avoid making only an India-Pakistan arrangement to prevent proliferation. There is belated understanding of India's position that any regional non-proliferation arrangement must include the Chinese weapons. But this understanding needs to be implemented into concrete policy. The Clinton administration has reportedly amended its earlier policy of 'cap, reduce and eliminate' the nuclear capabilities of India and Pakistan, but it would continue to work for nuclear restraint. If the new proposal, if any, would once again be based upon the India-Pakistan nuclear program, it would be a non-starter. In addition, the US policy vis-a-vis Pakistan's nuclear weapons program, China's nuclear weapon modernization and Sino-Pakistan nuclear and missile cooperation will continue to be irritants in US-India relations in the foreseeable future.⁵⁴

⁵³ Pioneer, August 16, 1996.

⁵⁴ Chintamani Mahapatra, "Indo-American Relations on the Threshold of 21st Century" *Strategic Analysis*, vol.- xxii no.2 May 1998. pp.162-163.

US POLICY IN SOUTH ASIA

US policies in South Asia over the last 50 years have been generally incidental to American interests, often inconsistent or divisive, and sometimes self-contradictory. Probable reasons on the US side include lack of knowledge, focussed vision and regular high level communications with South Asia, and vagaries of the US political system. On the other hand, lack of South Asian economic, emotional, strategic cohesion around its natural magnet, India and the intertwining of Cold War politics and covert activities with various India-Pakistan disputes, has imposed a heavy price on the Indian subcontinent as a whole and on every state's constructive relationship with the US. US interests and objectives in South Asia in 1990's retain their additional emphasis on American political and ideological goals, military security and commercial benefits. US interests and objectives in South Asia are mainly to halt the proliferation of Weapons of Mass Destruction and to prevent the outbreak of war between India and Pakistan”⁵⁵

The NWS led by the US have been making sure that there is no linkage to disarmament in the CTBT, nor has a parallel process been allowed to be establish. For India the global disarmament is crucial and disarmament approach is the only viable way of looking at the role of nuclear weapons in the 21st century. It may be recalled that India was at the forefront seeking an NPT since October 1964; but this, as the 1965 UN General Assembly resolution required, was to provide a treaty that leads to not only non-proliferation, but more important, forms the basis of disarmament which the negotiating process diluted substantially. While seeking permanent extension of the NPT in 1995 the NWS especially the US went out of their way to ensure that no commitments were made with regards to disarmament. The NWS have refused to be accountable for their violation of the NPT clauses. Since the NPT is not allowed to be a vehicle for disarmament even under its diffused provision, the disarmament linkage in the CTBT becomes even more important.

⁵⁵ Surjit Mansingh “ United States: Policies in South Asia in the 1990's”. *South Asian Survey*, vol.-4, no-2, 1997, p.282.

During the CTBT negotiations, the US has generally resisted engaging India's demands. Instead, US policy was to win consensus among the five nuclear weapons states and then build great enough global support to effect a treaty without India or Pakistan or to pressurize them into signing it at the end. Key US officials doubted all along that India would sign the treaty and therefore resisted any concessions, which they believed, would go un-reciprocated. Underlying the US approach was the determination of the Pentagon and other agencies to reject any commitment to end US options for qualitatively improving nuclear weapons. These elements in Washington sought to maximize the non-proliferation effect of the treaty, while minimizing its disarmament consequences.⁵⁶

The US administration has repeatedly asserted in various policy statements that it cannot do without nuclear weapons for its security in the foreseeable future. Nuclear weapons are being projected as the highest currency of power. Therefore when proposals for reorganizing the Security Council and expanding its permanent membership are brought up, the NWS assert that they alone will have the veto power. Though Germany and Japan are economically and otherwise more powerful than four nuclear weapons powers, they will not get veto power. The five Nuclear weapon powers have formed a cartel and started usurping the powers of the UN. Nuclear weapons are not weapons of war but of terror and mass destruction. K. Subramanyam, a noted nuclear expert, argues now that the Cold War is over the West and Russia are partners for peace in the security framework of the Organisation of Security and Cooperation in Europe (OSCE) and US, UK and France and adopting a policy of engagement with China, why do they need nuclear weapons? Why are they continuing research on nuclear weapons without explosive test and spend vast sum of money on research and Stockpile Stewardship Program?

From the Indian perspective, America's outlook on South Asia's nuclear capability is based on faulty assumptions. There is a strong fear in the US that a nuclear capable Pakistan and India have made South Asia 'the most dangerous place on earth.'

⁵⁶ George Perkovich, "India's Nuclear Weapons Debate; Unlocking the door to the CTBT", *Arms Control Today*, vol .26, no.4, May/June 1996, p.16.

Such a view fits what some have termed the nuclear theology of the west: that developing countries are prone to go to war with each other and that these wars are more likely to escalate to nuclear war if a nation has such capabilities. Beneath this view seems to be the unstated assumption that leaders of developing countries are more irresponsible, volatile, and cavalier with the lives of their people. In case of India and Pakistan, Kashmir is seen as the probable spark. But the behavior of Indian and Pakistani leaders suggest otherwise. In the Indo-Pak wars since 1950s, considerable restraint was exercised in avoiding civilian target and in not pushing the military advantage to gain territory in the heartland of disputed areas – for example, India’s decision not to thrust forward in the western sector in 1971. There is little reason to believe that the two countries will change their behavior (now that they have conducted nuclear test). Indeed a nuclear realism has given rise to bilateral confidence building measures.⁵⁷

The various stands of US policy towards India seemed rooted in the implicit attitude that India is a revisionist power bent on restructuring the international system at the expense of America’s global interest. This negative view of India arises from a misreading of the meaning of India’s drive for self-reliance and national sovereignty. It is also tied to the paradoxical streak of universalism in America’s philosophy of liberal individualism, which implies that ‘those who are not with us are against us.’

Criticizing US stand, Jasjit Singh observes:

...while recent arms reductions are profoundly constructive, the heart of the discrimination case is that some states – the recognized Nuclear powers- uncompromisingly reserve the right to possess the deterrent power of nuclear weapons while denying it to others. Strategic threats to the US may be uncertain, but the US insists on having Nuclear weapons to deal with them. Meanwhile, India (has) identifiable threats to its security. India borders not only Pakistan but also larger and nuclear-armed China. Still the US blithely insists that India must abjure nuclear deterrence.⁵⁸

Nuclear Weapon States pledged in the NPT that the world should work in good faith towards total nuclear disarmament. Simultaneously, however, these states have

⁵⁷ Deepa Ollapally and Raja Ramanna, “ US- India Tension, Misperception on Nuclear Proliferation”: *Foreign Affairs*, January/February 1995 vol. 74, no.1. p.16.

⁵⁸ Jasjit Singh, *The Road Ahead: Indo-US Strategic Dialogue*, (New Delhi: Yugantar Press, 1994), p.95.

continued to rely on nuclear deterrence for security, and they have said that disarmament is a long term rather than near term goal. NPT parties are in process of discovering that CTBT doesn't constitute a step towards disarmament that they had thought it was. This is, since Nuclear Weapons States are not by any means abandoning nuclear deterrence but are instead taking steps to assure that their stockpile will remain safe and reliable, and therefore, usable despite the treaty ban. The US Stewardship Program is designed to defeat the nuclear erosion. It is the dependence of the nuclear weapons states on deterrence, despite the NPT commitment to disarmament, that is the source of great dangers to the NPT, and this conflict will persist regardless of whether the CTBT is ratified by the US or not.

India considers that the CTBT is palpably cynical in its intent. The nuclear nations were willing to forgo testing in the first place because their technical enterprise was sufficiently advanced to enable them to do without it. But for India and Pakistan, these explosions offer the only sure way of testing the technology and the only way of showing off their nuclear capabilities. If US consider nuclear test to be superfluous, then why has the US carried out 1030 tests? By that logic, the ban will also fail to stop other countries from doing the same. The whole basis of nuclear non-proliferation needs rethinking. The western approach to chemical and biological weapons is that no body should have them.⁵⁹ That is the idea behind the Chemical Weapons Treaty and Biological Weapons Treaty. This is only philosophy that can logically be applied to nuclear weapons.

In many ways, American perception of India in the nuclear arena has been and continues to be out of step with actual Indian thinking and policy practices. In the light of the political misrepresentation and misunderstanding between the US and India, genuine and sustained dialogues will be all the more critical.

⁵⁹ Though America preaches other states against developing nuclear weapon, it is the only nation to have employed all three types of WMD biological, chemical and nuclear. America's admission that it is using against the Serbs radiological weapon-depleted uranium munitions that pierce armour and leave a radiological trail and that it used small poxvirus to ethnically cleanse Native Americans and spread plague in Cuba. For 10 years during the Vietnam War US plane spread a toxic di oxin-based chemical; Agent Orange that has contaminated Vietnam food chain and caused congenital deformities. The Hiroshima and Nagasaki nuclear holocausts were the product of the thought that approved civilian massacre as a legitimate tool of warfare.

UNDERSTANDING INDIAN POSITION ON TESTING

India, along with many other nations, co-sponsored the resolution for the CTBT and fissile material cut off agreement in the United Nations in December of 1993. Moreover, when Indian Prime Minister Narashimha Rao visited Washington in May 1994, he and President Clinton, offered their strong support for efforts towards the non-proliferation of WMD, and their means of delivery and towards their progressive reduction, with the goal of elimination of such weapons and termed this goal among the most pressing challenges to the security of states in the post-Cold War era.

The earliest Indian forays into the question of nuclear disarmament were admittedly more moralistic than realistic. The current disharmony, therefore, between India and rest of the globe is that India has moved from being totally moralistic to being a little realistic while the rest of the nuclear world has arrived its nuclear conclusion entirely realistically. With a surplus of nuclear weapons and the technology for fourth – generation weapons, the other nuclear powers are now beginning to move towards a moralistic position. Here is a cradle of lack of understanding about the Indian stand.

The principle obstacle in understanding India's position lies in the failure to recognize the country's security needs; of the need in this nuclearized world for a balance between the rights and obligations of all nations; of ending today's unequal division between nuclear 'haves' and 'have-nots'. No other country in the world has demonstrated the resistant that India has for nearly a quarter of a century after the first Pokhran tests. India has witnessed decades of international unconcern and incomprehension as its security environment, both globally and in Asia, deteriorated. The end of Cold War created the appearance of American unipolarity, but also led to the rise of additional power centers. The fulcrum of the international balance of power shifted from Europe to Asia. The rise of China led to new security strains that were not addressed by the existing non-proliferation regime.

The 1995 indefinite extension of the NPT, legitimized in perpetuity the existing nuclear arsenals and, in effect, an unequal nuclear regime. Even as the nations of the world acceded to the treaty, the five acknowledged Nuclear weapon powers stood apart,

the three undeclared Nuclear Weapon States were also unable to subscribe. Neither the world nor the Nuclear powers succeeded in halting the transfer of nuclear weapons technology from declared Nuclear weapon powers to their preferred clients. The NPT notwithstanding, proliferation in India's backyard spread. Since the nuclear powers that assist or condone proliferation are subject to no penalty, the entire non-proliferation regime became flawed. Nuclear technologies became, at worst, commodities of international commerce and at best, lubricants of diplomatic fidelity. Chinese and Pakistani proliferation was no secret. Not only did the Central Intelligence Agency refer to it but also since early 1990s the required US Presidential Certification of non-proliferation could not be provided. India is the only country in the world sand-witched between two nuclear weapon powers.⁶⁰

Most nations are beneficiaries of nuclear security paradigm. From Vancouver to Vladivostok, stretches a club: a security framework in which four nuclear weapons powers, as partners in peace, provide extended deterrent protection. The Americans are under the US nuclear deterrent as member of Organisation of American states. South Korea, Japan and Australia are also under the US umbrella. These differential standards of national security – a sort of international nuclear apartheid – are not simply a challenge to India, but demonstrate the inequality of the entire non-proliferation regime. The Soviet Union's successor Russia, has considerable less international prestige. Inevitably the previous existing alliance between India and the former USSR has eroded. India has ancient link with the Gulf region. However, this region and its neighborhood have been targets of missile and nuclear proliferation.

India has argued that adequate verification cannot be assured. In this regard, Spurgeon M. Keeny, Arms Control Association President and Executive Director, has pointed that India's concern is while one can with high confidence identify test down to one kiloton equivalent and with less confidence to considerably lower level, there will always be a range of yields above zero that cannot be detected.⁶¹ In US despite these

⁶⁰ Jaswant Singh, *Foreign Affairs*, vol .77, no.5, September /October, 1998 p.47.

⁶¹ Spurgeon M. Keeny, "The CTB Treaty and Nuclear Non-Proliferation: The Debate Continues", *Arms Control Today*, vol.28, no.2, March 1998, p.9.

technical limitations the verification system is defined as effective because tests below threshold do not pose a security risk to the US.

Concern is raised for pummeling, friendly democratic country, India, which is not known ever to have committed the cardinal nuclear-club sin of helping other countries enter the magic circle. At the same time it is cultivating an ambiguously situated unambiguously undemocratic country, China, even, offering it privileged access to nuclear technologies barred to Indians.

India's detonation of five nuclear devices has predictably set off other explosions, not just in Pakistan. Washington has exploded with outrage and alarm. This reaction was predictable both, because of its arms control fetish and because of its misunderstanding of India. In the US there is a growing understanding of the rationale for Indian tests. The administration is criticized for its policy of engagement with China and ignoring India. The message sent by administration has encouraged India to conclude that the most effective way to ensure that its interests are protected from an increasingly powerful Asian, and to garner diplomatic and commercial attention from the West, is to remind the world of its nuclear deterrent capability. India's importance of US strategic interests deserves fresh scrutiny. Although American business has become India's mass trading partner, the US policy makers have long ignored it.

The US has turned a blind eye to the arming hostile Pakistan by North Korea and China. The Indians also knew that China is building airfields and storing weapons on their Tibetan border and arming their other hostile neighbour in Pakistan and Myanmar. But because the Indians don't fall in the same happy category as the Indonesian and the Chinese, they face the choice between maintaining a strong defense and offending Clinton. As an analyst has observed:

... attitudes about India are the same western mush of arrogance, ignorance, condescension that they have been for the half century since Indian independence... Listen to Mr. Clinton talk of his priority-American democracy and Chinese dictatorship knitting together in trade and security strategy. What strategy? Was India consulted? Even thought about? ⁶²

⁶² *International Herald Tribune*, May 17-18, 1998.

INDIA'S JUSTIFICATION OF ITS NUCLEAR TESTS

For many, the test represents India's misplaced sense of priorities. Its attempt to secure great power status through military means rather than by attending assiduously to the economic well-being of its citizens seems misguided. The nuclear tests also appear to represent a decisive break with the best moral intimation bequeathed by Gandhi and Nehru, who for all their failings articulated an idealism that could have been the basis of a more morally exemplary foreign policy. Internationally, India's tests have challenged the privileges of the established nuclear order and seem to have dealt a blow to hard-won successes to combat nuclear weapons proliferation. It has also been argued that the compulsion behind the testing was primarily driven by domestic concern. The BJP's concerted efforts to portray itself as moderate, centrist party had left it without a clear ideological direction. Conducting nuclear tests was a way to show up the government's credibility and demonstrate its decisiveness. While its difficult to determine the government's motive, it would be a grave mistake to view India's nuclear tests simply as a product of short-term expediency. The tests had an almost 80 percent approval rating among the Indian public and despite some protest by peace activists, enthusiasm for them seems not to have abated significantly.⁶³ Arguments put forward to explain why the Indian Government chose to conduct tests are:

- Supposed changes in the international security environment or perception about such change, i.e. Pakistan and China have become threatening and belligerent by going nuclear. Although China formally acceded in March 1992 to the NPT, it is not a member of Nuclear Suppliers Group (NSG is an informal body of major nuclear supplier countries first organised in London in 1975, which delineates the guidelines calling for restraint in exporting sensitive technologies like production of heavy water; enrichment and reprocessing. China is also not a member of 28-nation Missile Technology Control Regime (MTCR), which bars the transfer of certain technologies and

⁶³ Pratap Bhanu Mehta : " India :The Nuclear Politics of Self Esteem", *Current History*, vol. 97, no.623, December 1998, p.403.

missiles with the capabilities of delivering a 500 Kg warhead to 300 Kms.⁶⁴ China appears disinclined to forgo tactical nuclear weapons, unlike many other nuclear powers.

- Nuclear hypocrisies of existing NWS and their reluctance to move rapidly to full nuclear disarmament has finally drawn India out of impatience into their club.
- Changed self-perceptions and domestic factors behind such changes, that is, the changing character of the elite. Indian nationalism and the role of Sangh combine in bringing about such changes as well as in pushing its own distinctive agenda.

IMPLICATIONS OF RECENT INDIAN NUCLEAR TESTS

India's move to nuclearise has broad implications. Firstly, it has questioned the non-proliferation order that had been painstakingly built up by the five nuclear weapon states led by the US and its allies. While India supported the concept of non-proliferation, it did so only as a part of larger and immutable goal of universal disarmament. Unfortunately the focus has been only non-proliferation and not disarmament. Only vague open-ended promises of disarmament at an undefined point in a distant future were held out. Most Indians question the very rationale and reliability of nuclear deterrence. Even acquisition of nuclear weapons by India, therefore can be seen only as an interim step till total abolition of nuclear weapons becomes a reality. A nuclear weapon-free world would enhance India's security, both politically as well as militarily. On the other hand, if there is little or no movement towards disarmament, the risks of proliferation will increase.

Secondly, it is argued that India's nuclearisation will start an arms race, intensify India-Pakistan rivalry at the minimum and possibly lead to a nuclear war. Curiously,

⁶⁴ India-Pakistan Nuclear and Missile Proliferation: Background Status and Issues For US Policy *CRS Reports* for Congress (Washington D.C.: Foreign Affairs and National Defence Division, December 16, 1996), p.20.

some arguments were being heard after Pakistan acquired nuclear weapons in 1987, although India had not acquired nuclear weapons. The reality is that, there has been no 'race' between Pakistan and India even in conventional area. India has been cutting back its defense spending from 3.6% of the GDP in 1987 to around 2.4% now. Pakistan's defense spending has also been coming down, though more gradually, since 1993. Tests do not have to lead to an armament race. They may in the end prove to be more of a stabilizing factor than an imitation of conflict. Having shown its capabilities, India may have prevented less welcome development. In addition, being a member of nuclear club may facilitate India's joining international agreement on the policy of equality.⁶⁵

Thirdly, the possession of credible nuclear deterrent capabilities by India, China and Pakistan has virtually eliminated the probability of war in the region. If war does take place in the region, it will remain limited because of the risk of rapid escalation and impact of the nuclear weapons factor.

Lastly, to the US, these tests constitute the first act of open revolt against the international diplomatic domination by Washington.

THE CTBT DEBATE

Opponents of the treaty argue that India shouldn't sign the treaty in its national security interests. Andrew Koch, a senior Research Associate at the Center of Non-proliferation Studies, Monterey Institute of International Studies, points out that India should oppose CTBT in its security interests. He remarks:

At present, China's nuclear and missile capabilities outstrip those of India, which has neither the nuclear fire-power nor the delivery system to pose a serious threat to Chinese heartland. China on the other hand, possesses the ability to wreck intolerable devastation on India at all levels of nuclear escalation. If these security consideration are then extrapolated to include the ramifications of a CTBT entering into force, India could find itself in a permanently inferior position vis-a-vis China and without a credible

⁶⁵ *International Herald Tribune*, May 13, 1998.

minimum nuclear deterrent. Such an outcome would prove intolerable for India.⁶⁶

It is also argued that the CTBT will not come into force in the near future. The US Senate will not ratify it at least till the year 2000. Without this, there is no possibility of the treaty's coming into effect. Arundhati Ghosh says that it would be a mistake to sign the CTBT. It would also be a mistake to enter on the FMCT because both the treaties are corollaries that flow from the NPT, which is the basis of the present unequal nuclear regime, which we have always argued against. This is an unstable regime and we should not sign.

On the other hand supporters of the treaty say that India should sign the treaty. Achin Vanaik says that India should sign the treaty. He has remarked:

The CTBT has an international (not US dominated) monitoring system as part of its legitimized functioning. One may still believe that as a matter of principle, India must not sign the CTBT, but one cannot delude oneself that a meaningful substitute mechanism can be put in its place to ensure a permanent end to testing by India and Pakistan.⁶⁷

INDIA'S POST-TEST POLICY

One May 11, 1998, soon after conducting the three tests, the Principal Secretary to the Prime Minister, Brajesh Mishra, in a Press statement, said:

India would be prepared to consider being an adherent to some of the undertakings in the Comprehensive Test Ban Treaty. But this cannot obviously be done in a vacuum. It would necessarily be an evolutionary process from concept to commitment and would depend on a number of reciprocal activities.⁶⁸

India declared a moratorium on nuclear testing on May 21, 1998. Announcing this, Mishra said, "As was announced on May 13, the planned tests are over. Now there is

⁶⁶ Andrew Koch, "Nuclear Testing in South Asia and the CTBT", *The Non-proliferation Review*, spring-summer 1996, vol.3, p.100.

⁶⁷ Achin Vanaik, "Crossing the Rubicon," *Economic and Political weekly*, June 13, 1998, p.1436.

⁶⁸ Text of the Press statement made by principal secretary to the Prime Minister.

a moratorium on tests. We would like to convert the moratorium into formal obligation within a possible dialogue with key 'Interlocutors' on the Comprehensive Test Ban Treaty."

On May 27, 1998, the Prime Minister, Atal Bihari Vajpayee in Parliament on India's nuclear tests said, "India is a nuclear weapon state. This is a reality that cannot be denied...It is not a conferment we seek, nor is a status for others to grant."⁶⁹ In a paper laid on the floor of the Lok Sabha on May 27, 1998, the Prime Minister expressing concerns at the modernisation of nuclear weapons by the P5, said the country was left with 'little choice'. He further said:

India had to take necessary steps to ensure that the country's nuclear option developed and safeguarded over the years, not be permitted to erode by voluntary self-imposed restraint. The only touchstone that guided the government was national security. Tests conducted on May 11 and 13 are a continuation of the policies set into motion that put this country on the path of self-reliance and independence of thought and actions.⁷⁰

Stating that the tests were not country-specific, Vajpayee reiterated the 'no first use' agreement with Pakistan as also with other countries bilaterally, or in a collective forum. He said that India believed that 'global elimination of nuclear weapons would enhance its security as well as that of the rest of the world.'⁷¹ Even after Pakistan conducted nuclear tests, there was no change in the moratorium announced. India has resisted pressures from the P5 and others like Japan and Germany to unconditionally sign the CTBT.

The conducting of tests by India has definitely given a decisive shift to India's nuclear policy in general, and the test ban policy in particular. Clearly the treaty was targeted against India (and, to an extent, China). Considering that the Non-Nuclear Weapon States by virtue of their membership of the NPT cannot test, and Israel because of its small size could not have tested. As for Pakistan, nuclear cooperation from China would have provided it with design/device. Having defeated the objective of the nuclear

⁶⁹ Text of Suo Moto Statement made by Prime Minister of India, in the Parliament on May 27, 1998, p.2.

⁷⁰ Paper laid on the Floor of the House by the Prime Minister, Atal Bihari Vajpayee on the Evolution of India's Nuclear Policy on May 27, 1998, p.4.

⁷¹ *ibid.*, pp.5-6.

weapons states and having attained as well as demonstrated a capability, can India now safely sign the CTBT? Even if it is assumed that the opposition to ban all types of test and the security argument stand neutralized by conducting a whole range of tests which have demonstrated Indian capability to build thermonuclear to mini and micro-nukes, what happens to the moral high ground of linkage with disarmament as an essential condition? Also, what are the advantages of signing now? On the other hand, if India does not sign the CTBT now, then how to deal with international pressures?

The Indian government's position to accede to certain portions of the treaty hardly means anything, considering that the text of the treaty prohibits any reservations. The nuclear weapons states as well as major industrialised countries have, individually as well as collectively, asked India to sign the CTBT 'without conditions.' Despite the amendment clause, it is highly unlikely that the nuclear weapons states in particular and other states in general, would permit amendments.

Then there is the question of public opinion. Has it undergone any change in the post-Pokhran II phase? There does not seem to be any visible signs of it. Besides even if India virtually gives up the disarmament bogey by making the time-limit or the span during which global elimination is to be achieved flexible, how do India deal with verification i.e. ensure that verification provisions and procedures do not impinge on it's security? It is argued that it is essential that India should complete weaponisation to the extent of developing a *deliverable* weapon capability (that is, complete our missile tests also) before it thinks of entering into any kind of negotiation and therefore, the government should debate the issue extensively along these lines in an inter-ministerial forum to chalk out a bargaining strategy, if desirable.

CHAPTER V

IS NUCLEAR DISARMAMENT POSSIBLE?

Nuclear weapons, which had been justified on the grounds that there was a Cold War, now came to be justified on the grounds that there was no Cold War. In the process, the Nuclear Weapon States (NWS) have taken advantage of the reduced concerns about the risk of a nuclear war after the end of the Cold War, to abdicate their nominal commitment to nuclear disarmament, which existed earlier. The focus on disarmament, weak as it was during the Cold War, almost completely disappeared from the international consciousness after the great confrontation was over. Instead, the concentration has been on non-proliferation since then.¹ The need to revisit disarmament is even greater now. The NWS show no readiness to move towards disarmament.

Not only has Cold War's end largely removed their rationale, but nuclear weapons themselves seem increasingly ill-suited to emerging threats. This is particularly true in the case of the US. Not only have the threats to US interests been greatly reduced, but it is also possible that military challenges can be addressed almost exclusively with conventional capabilities-the Gulf War amply demonstrates it. Retention of excessive nuclear capabilities also poses unnecessary security risks. With more nuclear weapons in existence, the chances of their irresponsible use would remain and non-proliferation norms would suffer. The declining utility of nuclear arms combined with the continuing dangers they pose offers strong incentives for further disarmament. Meanwhile, political support for disarmament is becoming difficult to ignore.

By disarming, the NWS would provide an example for the proliferants and the potential proliferants to follow. Specifically, it is argued that disarmament would have two positive effects. First, nuclear weapons possession would be discredited and would no longer be a means to acquire prestige. Second, proliferants would have no reason to seek nuclear weapons as a deterrent against NWS.

¹ Jasjit Singh, Nuclear India (New Delhi: Knowledge World, 1998), p. 289.

To some extent, the presumption that nuclear weapons have prestige value is based on a false foundation. The five NWS were extremely powerful militarily, politically and technologically prior to acquiring nuclear weapons and their abilities to develop nuclear weapons stemmed from that power². This is not to say that nuclear weapons did not enhance the prestige and power of the five, but the weapons were not the origin of their power.

Some nations have claim that the nuclear weapon status has frequently used by the US and others to augment their political clout³. While there may have been instances when the nuclear weapon capabilities of the US and other NWS, have influenced, there are few, if any, clear-cut examples. In fact, there are many examples of crises, in which nuclear weapons possession was of no help. The Vietnam War provides the most telling example of this situation. Again many Americans were killed in the bombing of the US Marine barracks in Beirut, in 1983. Over time it has become evident that nuclear weapons in hands of responsible states are useful as a deterrent to other NWS, but afford little use in other political or military crises. The prestige value of nuclear weapons has diminished and hence disarmament is practical.

But some argue that total nuclear disarmament is dangerous and impractical. Disarmament would not negate the already limited prestige value of nuclear weapons. Proliferants, with the exception of India vis-a-vis China, do not seek nuclear weapons to deter nuclear threats from other undeclared Nuclear Weapon States or conventional threats. Some states may also seek such weapons for hegemonistic goals or for prestige value. If NWS were to disarm, it would not affect the motives of proliferant states.

Despite the language in the NPT and the beliefs of disarmament advocates, nuclear disarmament by the NWS is neither a practical nor a realistic measure and, it is highly unlikely to have much impact on the motivations of proliferants⁴.

² The Permanent Members of the Security Council were chosen before that five acquired nuclear weapon.

³ For example, India claimed that US implied a nuclear threat against India in 1971, the years the upheaval in East Pakistan led to the formation of Bangladesh.

⁴ Kathleen C. Bailey, Strengthening, Nuclear Non-Proliferation (Boulder: West View Press, 1993), p.54.

Some argue that nuclear disarmament by the NWS is necessary to remove an important threat against Non-Nuclear Weapon States (NNWS). Doing so hypothetically will remove the incentive for NNWS to develop their own nuclear deterrent. The central problem with this argument is that proliferant countries do not pursue nuclear weapons to have a deterrent against nuclear arsenals of the NWS⁵. At least three points undermine the linkage between disarmament by the NWS and proliferation by others:

- The declared NWS are very unlikely to use nuclear weapons to threaten states not in possession of Weapons of Mass Destruction (WMD).
- New Nuclear Weapon States cannot match the arsenals of declared NWS either in quantitative or qualitative terms⁶.
- Nuclear weapons of a proliferant nation may be used to deter conventional threats⁷.

Getting rid of nuclear weapons is more difficult than foregoing the option in the first place. Nations that have already decided that their security interests are better served by nuclear weapons possession are unlikely to reverse that position unless they can be persuaded that nuclear weapons actually decrease their security⁸.

In case of Russia and US total nuclear disarmament is highly unlikely in the near or mid-term future, although both will continue to identify the concept as a goal in an ideal world. This is because nuclear weapons are central to providing security to allies, obviating the need for those countries to develop their own nuclear arsenals⁹. Secondly, no nation would give up its arsenals unilaterally. Neither nation can ever be sure that the

⁵ The exception to this is the case of India that said it developed nuclear weapons primarily as a response to China.

⁶ Sweden is an example of a nation that actually began a nuclear weapon program for the purpose of deterring a NWS (USSR) and then abandoned it. See Kathleen Bailey, Doomsday Weapons in the Hands of Many (Urbana: University of Illinois Press, 1991) pp. 30-32.

⁷ For example, had Saddam Hussain possessed nuclear weapons, the Desert Storm coalition might never have formed.

⁸ South Africa destroyed its nuclear weapons when it no longer felt threatened by Soviet-backed adversaries at its borders.

⁹ For example, NATO's nuclear umbrella over Germany and Russia's nuclear umbrella over Khazakastan obviates arguments that might be made in those countries for developing nuclear weapons.

other has given up its nuclear weapons even if the other promises that it has. There is absolutely no technology, existing or on scientists' drawing boards, that would enable one country to know that the other does not have hidden nuclear weapons, materials or components of nuclear weapons. Even if NWS were to give up their arsenals, nuclear weapons would still be recognised as a means to extraordinary power.

THE BENEFITS OF NUCLEAR DISARMAMENT

In exploring the desirability and the feasibility of prohibiting nuclear weapons, the balance of benefits and risks that this course of action would entail must be evaluated. A durable prohibition on nuclear weapons would have the various advantages. Firstly, it would virtually eliminate the risk that nuclear weapons might be used by those states now possessing them. Secondly, a prohibition on nuclear weapons would reduce the likelihood that additional states will acquire nuclear weapons. Although NPT currently enjoys almost universal adherence, the NWS cannot be confident of maintaining indefinitely a regime in which they proclaim nuclear weapons being essential to their security while denying all others the right to possess them. This is another benefit of disarmament. The recognition that a permanent division between nuclear 'haves' and 'have-nots' is unacceptable is captured in Article VI of the NPT, in which all parties promise to pursue nuclear disarmament. This commitment was reaffirmed by the UN Security Council in connection to the 1995 NPT Extension Conference. In a recent advisory opinion, the ICJ underscored the vital importance of satisfying this obligation under Article VI:

In the long run, international law, and with it the stability of the international order which it is intended to govern, are bound to suffer from the continuing difference of views with regard to the legal status of weapons as deadly as nuclear weapons. It is consequently important to put an end to this state of affairs; the long promised complete nuclear disarmament appears to be the most appropriate means of achieving that result.

Moreover, the current lack of serious commitment to comprehensive nuclear disarmament undermines the authority of the US and other NWS in combating proliferation and responding to violation of the NPT. It would be easier to marshal

decisive international action against countries attempting to acquire nuclear weapons if global prohibition on the possession of such weapons were in effect. Thirdly, advantage of comprehensive nuclear disarmament has to do with the uncertain moral and legal status of nuclear weapons. In the advisory opinion cited above, the ICJ unanimously agreed that the use or the threat of use of nuclear weapons is strictly limited by generally accepted laws and humanitarian principles that restrict the use of force¹⁰. Accordingly, any threat or use of nuclear weapons must be limited to, and necessary for self-defense. It must not be directed at civilians, and must be capable of distinguishing between civilian and military targets. It must also not cause unnecessary suffering to combatants or cause harm greater than is necessary to achieve legitimate military objectives.

THE RISKS OF NUCLEAR DISARMAMENT

Nuclear disarmament poses risks as well. Firstly, there is the risk that the prohibition on nuclear weapons might break down. States might cheat if they believed that small nuclear arsenals could be used successfully for coercive purposes. States might also be impelled to withdraw from a comprehensive nuclear disarmament agreement, if at some point, they believed their vital interests could no longer be protected without nuclear weapons. To reduce these risks, a disarmament regime would have to be built within a larger international security system that would be capable not only of deterring or punishing the acquisition or use of nuclear weapons but also of responding to aggression of all kinds.

Secondly, there is the concern that comprehensive nuclear disarmament would remove the moderating effect that nuclear weapons have had on the behavior of states, resulting in an increased risk of major war. The nuclear era represents the longest period without war between the major powers since the emergence of modern nation state in the sixteenth century. More than hundred regional conflicts, including civil wars, have been fought since the beginning of the nuclear age, but none of these conflicts generated direct

¹⁰ ICJ, "International Court of Justice: Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapon", *International Legal Materials*, vol.35 (1996), p.830.

combat between the Nuclear Weapon States. It is reasonable to assume that the cautionary effect of nuclear weapons is at least partially responsible for this absence of major wars. It is argued if the major powers believed that the risk of nuclear weapons have been eliminated they could initiate or intensify conflicts that might otherwise have been avoided or limited.

There is however no demonstrable relationship between the actual possession of nuclear weapons and the avoidance of war. Even if all nuclear weapons were eliminated, the inherent capacity of major powers to build nuclear weapons would act as a deterrent to the outbreak of major conventional wars, since both sides would fear that the other might acquire and use nuclear weapons during a protracted struggle if its vital interests were threatened. In other words, existential nuclear deterrence would remain to some extent even if nuclear arsenals were dismantled. Secondly, there have been, and continue to be, profound changes in the structure of the international order that reduce the probability of major wars, independent of nuclear deterrence. These include the spread of democracy, the growth of economic systems that do not depend on or benefit from territorial conquest, expanding economic interdependence and integration, the emergence of strong international political and financial institutions (such as the UN and IMF) and the diffusion of global communications and shared culture. Thus, the avoidance of a major war in the nuclear age can be attributed to many factors rather than to nuclear deterrence alone.

DO INDIA AND US SEE NUCLEAR WEAPONS AS DETERRENCE?

The morality and utility of nuclear weapons have been debated passionately since their creation. After the first detonation in 1945, no one disputed that the destruction of Hiroshima and Nagasaki had had a decisive impact on the Japanese leadership's decision to end the war, thereby saving a million or more American and Japanese lives. Neither did anyone relish a future in which the use of nuclear weapons would become an accepted condition of warfare.

While it is impossible to prove what would have happened had nuclear weapons not existed during the Cold War, the reality of what did not happen-World War III-would seem to vindicate those who advocate a strong nuclear deterrent.

US Views on Nuclear Deterrence

Some advocates continually call for abolition of these weapons. In the forefront are the 'new eliminationists' - those advocating complete abolition of nuclear weapons or drastic reduction as a first step to a nuclear free world. Representatives of the arguments of these 'new eliminationists' are the Canberra Commission¹¹ and the much publicized open letter from prominent Generals and Admirals concluding that nuclear weapons constitute a peril to global peace and security, in light of which the ultimate objective should be the complete and total elimination of nuclear weapons from all nations.¹²

General Butler in 1991 itself said, "We are going to be involved for some indeterminate period of time in strategic disengagement-disentangling ourselves mentally, bureaucratically and militarily from the habitual ways of thinking and acting of 40 years of Cold War animosity."¹³ According to General Butler, deterrence is a slippery conceptual slope. In his words:

It is neither stable nor static; its rules can not be contained. It is both master and slave. It seduces the scientist yet bends to his creation. It serves the ends of evil as well as those of noble intent ... At best it is a gamble no mortal should pretend to make. At worst it invokes death on a scale rivaling the power of the creator ... They (non-abolitionists) cling to deterrence and shake it wistfully at bygone adversaries and balefully at new or imagined ones. What better illustration of misplaced faith in nuclear deterrence is there than the persistent belief that retaliation with

¹¹ Canberra Commission strikes a balance between general analysis and specific recommendations, which are, absent in ICJ ruling. It advocates a phased programme of reduction that pays close attention to the myriad of technical and political issues likely to attend the disarmament process. The Commission's call was tabled in the CD by Egypt on behalf of 28 countries making up the G-21 (i.e., the group of 21 non-aligned CD states, yet to change its name to reflect the expanded CD membership). This document advances a three-staged blueprint for the total abolition of nuclear arms to be carved out by a proposed ad hoc committee of the CD. Deadlines govern the implementation of each stage, with the first scheduled to take place between 1996-2000, the second between 2000-2010 and the third to occur between 2010-2020.

¹² "The General's Bombshell. Phasing out the U.S. Nuclear Arsenal," Washington Post, Jan 12, 1997. It is reprinted in the Washington Quarterly, summer 1997, pp. 125-131.

¹³ Quoted in William Arkin, Damian Durrant and Hans Kritensem, "Nuclear Weapons Headed for the Trash", *Bulletin of Atomic scientists*, vol. 47, no. 10, December 1991, p. 16.

nuclear weapons is a legitimate and appropriate response to post-Cold War threats posed by weapons of mass destruction? What could possibly justify our resort to the very means we properly abhor and condemn? How could America's irreplaceable role, as leader of the campaign against nuclear proliferation ever be re-justified?¹⁴

He also states that it is not possible at once to keep sacred the miracle of existence and hold sacrosanct the capacity to destroy it.

In March 1997, the Henry Stimson Center launched a Nuclear Future Forum providing an opportunity for people to discuss the future of nuclear, chemical and biological weapons. Elimination of nuclear arsenals is suggested on the basis of moral imperative because accepting nuclear weapons as the ultimate arbiter of conflict condemns the world to live under a dark cloud of perpetual anxiety.

There still are those who consider the talk of abolition of nuclear weapons to be unacceptable and an indication of hopeless naivete. They have dubbed nuclear abolitionists as 'vindicated co-conspirators' and describe nuclear disarmament as a threat. A cartoon in the *Bulletin of Atomic Scientists* of the early 1990 even showed an Army General remarking, "I would not wish disarmament on my worst enemy."¹⁵

Bowry Blechman and Cathleen Fisher of Stimson Center have argued that the character of international relations is undergoing an irreversible transformation that will invalidate rationales for WMD. As per their presumptions technological diffusion and economic interdependence have created a world order where a growing number of states share so many common interests that the very idea of not using military force in the settlement of disputes has been legitimized.¹⁶

Those who are against abolition see continuing rationale for nuclear deterrence. A principal rationale for maintaining a credible and effective nuclear weapons posture is based on the need to promote a hedge-an insurance policy-against a reversal in relations with China and Russia. Neither of them would seriously consider elimination of nuclear arsenals but would see real value in a unilaterally disarmed US. While Americans are

¹⁴ Lee Butler, "A Voice of Reason", *The Bulletin of Atomic Scientists*, vol. 54, no. 3, May/June 1998, p. 61.

¹⁵ *Bulletin of Atom Scientists*, vol., 48, no. 2, February 1992.

¹⁶ Robert A. Manning, "The Nuclear Age: The Next Chapter", *Foreign Policy*, winter 1997-98, p. 76.

debating at least over the pros and cons of reductions in US nuclear forces, the Russians & Chinese are modernizing their own nuclear forces.¹⁷ According to Walter B. Slocombe, US Under Secretary of Defense for Policy, "...nuclear weapons will continue to fulfill an essential role in meeting our deterrence requirements and assuring our non-proliferation objectives."¹⁸

The argument that the external environment has changed so much with the end of Cold War that no ethical or moral basis for nuclear arms remains is unconvincing. American lives and interests remain threatened. In fact, the proliferation of biological and chemical weapons have made the likelihood of conflict and the prospect of the use of WMD even greater than in the past in several key regions. If a proliferant is threatening to use chemical or biological weapons, what counter threat is more credible and terrible? According to Kathleen C. Bailey, in the past, the US developed chemical and biological weapons as 'in-kind' deterrent. In 1969, the US gave up its biological deterrent, in 1991 it relinquished its chemical deterrent. Despite the US view that these weapons should be totally banned, other nations continue to develop and stockpile them.¹⁹

Currently, the US has no well-defined policy on how it will respond to threats or attacks involving Weapons of Mass Destruction, launched by nations other than the former Soviet Union. The US should clearly convey its intention to use that deterrent in event of the use of weapons of mass destruction, argues Bailey.²⁰

Another argument put forward is that the new proliferants like Iran, Iraq and North Korea, who seek WMD as instruments of coercion and aggression, cannot be persuaded to forego these weapons as a consequence of others disarming. Drastic reductions might also have a deleterious effect on the security calculation of US allies

¹⁷ Robert Joseph, "Nuclear deterrence and Regional proliferators", *Washington Quarterly*, vol.20, no.3, summer 1997.

¹⁸ Statement before the Senate Governmental Affairs subcommittee on International Security, Proliferation, and Federal Services on Nuclear Weapons and Deterrence, February 12, 1997. Quoted in, Harold P. Smith and Richard S. Soll, "Challenges of Nuclear Stockpile Stewardship under a Comprehensive Test Ban", *Arms control Today*, vol.28, no.2, March 1998 p. 3.

¹⁹ Kathleen C. Bailey, Weapons of Mass destruction: Costs Vs Benefits (New Delhi: Manohar Publishers, 1994), p. 140.

²⁰ *ibid.*, p.135.

who have long depended on the American nuclear umbrella. Also if a US ally comes under attack from a proliferant, the US may actually be called upon to use nuclear deterrent (extended deterrence).

The very process of arms reduction may, in a minor way, promote proliferation. As a defense analyst from India commented that vast reductions in the numbers of US nuclear weapons, coupled with cap on modernization forced by the end of nuclear testing will level the field. It will become possible for India to build up to the level to which the US has built down.

This school of thought definitely belongs to the modern realist and neo-realist thinking which has guided the embrace of nuclear deterrence as a path to security.²¹ To the abolitionists, containment was unnecessary and deterrence irrelevant to postwar peace but to others, adherence to realist principles allowed containment and deterrence to succeed, producing the longest period of 'Great Powers' peace in modern history.

India's View on Nuclear Deterrence

In India the subject whether nuclear weapons provide deterrence or not is widely debated. Some are of the opinion that a nuclear weapons environment is essentially destabilizing. Dipankar Banerjee says, "... nuclear weapons are of no military value whatever, you can neither eat them, nor throw them. But once produced, one can only hold them, and that is enormously expensive."²²

Some have felt that nuclear weapons can be used to deter another state that does not have them. But this thesis is flawed. The reality is that every nuclear weapon power that has fought war with another non-nuclear power and has either lost the war or in that war nuclear weapons had no effect on the conflict. Some have argued that if two adversaries had nuclear weapons there will be no war between them and peace and tranquility would be the result. The thesis cannot be proven empirically. The east-west conflict in Europe did not materialize due to a host of other equally plausible reasons.

²¹ Charles W. Kegley Jr., Quoting the Morality of Nuclear Deterrence (Boulder: Westview Press, 1991), p.13

It's argued that a small arsenal and minimum deterrence are less costly and are a feasible proposition. A country's nuclear weapon strategy should be examined from the perspective its national security environment. How does it impact India? Does it enhance national security? National security is feeding its citizens, providing them the means to live, lead healthy lives and earn a livelihood that can meet some of their aspirations. The overwhelming majority of Indian people are denied these possibilities. Nuclear weapons don't enhance Indian defense potential against China and Pakistan. India-China relations were indeed progressing very satisfactorily in recent years. China and Pakistan were moving somewhat apart, but have now been thrust into each other's arms by Indian policies.

The end of Cold War started a process of the decaying of deterrence, which overtime, would make nuclear weapons irrelevant. There are a number of reasons for this:

- Territorial wars are now an exception rather than the rule.
- Global defense expenditure has reduced by more than one third during the past ten years and military strength has shrunk by nearly four million men.
- Rise and expansion of the sovereign states in the international order has also limited the scope for use of armed forces for direct frontal war.

The end of the Cold War has also brought the true nature of nuclear weapons, that is, a political instrument, into sharper focus. The growing trend of nuclear deterrence decay, however, does not imply that nuclear weapons have lost their relevance. Their role as a political instrument confers on them a utility more in terms of political deterrence rather than limiting it to military deterrence.

The other school of thought considers nuclear weapons essential as they provide deterrence. The first fifty years of Indian independence reveal that the country's moralistic nuclear policy and restraint paid no measurable dividends. Disarmament seemed increasingly unrealistic politics. As Jaswant Singh has observed:

²² Dipankar Banerjee, "Buddha's Smile and National Security", *Economic & Political Weekly*, May 16, Contd.

If the Permanent five continue to employ nuclear weapons as an international currency of force and power, why should India voluntarily devalue its own state power and national security? If the Permanent five's possession of nuclear weapons increases security, why would India's possession of nuclear weapons be dangerous... If deterrence works in the west-as it so obviously appears to, since western nations insist on continuing to possess nuclear weapons-by what reasoning will it not work in India? Nuclear weapon powers continue to have, but preach to the have-nots to have even less. India counters by suggesting either universal, non-discriminatory disarmament or equal security for the entire world.²³

It is believed that the only reason why eyeball to eyeball confrontations between Pakistan and Indian armies in 1987 and 1990 were not converted into military conflict was the nuclear factor. As General K. Sunderji, a former Chief of Staff for the Indian Army, commented, "The Gulf War emphasized once again that nuclear weapons are the ultimate coin of power. In the final analysis, they (the coalition forces) could go in because US had nuclear weapons and Iraq didn't."

THE PREREQUISITES FOR NUCLEAR DISARMAMENT

If the major powers enjoy good relations, their decision-making processes and military deployments are reasonably transparent, they have confidence that other states will abide by international norms, and are willing to take collective action to counter aggression, the prospects for prohibiting nuclear weapons will be greatly improved. But if deep animosities persist between major powers and if technically capable states continue to challenge international norms of behavior, the balance will remain unfavorable.

States will not agree or adhere to a prohibition on nuclear weapons unless they are confident their vital interest could be adequately protected without such weapons. A fundamental attribute of sovereignty is the ability to defend oneself, whether this is through national resources alone or through international norms or other international means. Serious efforts should be made to achieve comprehensive international arrangements to regulate conventional force structures and deployments at the lowest

1998, p. 1159

levels, consistent with national and international security interests and at the lowest costs to the world economy.

Comprehensive nuclear disarmament will require a highly effective system of verification to confirm that all nuclear weapons had been dismantled and that all fissile materials have been placed under international safeguards. The system would have to provide timely warning of any attempt to build new nuclear weapons or to reconstruct dismantled nuclear arsenals. A comprehensive nuclear disarmament treaty could, for example, require parties to enact a law obligating citizens to report any information about possible violation of the treaty to the international inspection agency. Such measures could be particularly valuable in uncovering activities that are difficult to detect, such as the concealment of nuclear weapons or weapons materials. As long as nuclear power and other peaceful nuclear activities continue, there will be a risk that associated materials and facilities could be diverted to military purposes. The proper organization and management of civilian nuclear activities therefore will be of central importance in a nuclear disarmed world.

Any agreement prohibiting nuclear weapons would have to specify what constitutes a nuclear weapon, and which activities related to nuclear weapons would be permissible and which would be not. A continuous spectrum of weapons related activities is possible under a prohibition, ranging from theoretical and experimental work on nuclear problems, to construction and operation of civilian nuclear facilities, sustenance of abilities and facilities to design and fabricate nuclear weapons and in the extreme case retaining stockpiles of weapon components.²⁴

Some have argued that allowing countries to maintain a capability to build nuclear weapons in a short period of time would strengthen the nuclear deterrent effect, thereby permitting nuclear weapons to be prohibited without major changes in the international order.²⁵ But, allowing states to maintain the capacity to rebuild nuclear weapons would

²³ Jaswant Singh, "Against Nuclear Apartheid", *Foreign Affairs*, vol. 77, no. 5, September/October 1998, p.43.

²⁴ Jonathan Schell, *The Abolition* (New York: Avon Books 1984), p.28.

²⁵ Michael J. Mazarr, "Virtual Nuclear Arsenals," *Survival*, vol. 37, autumn 1995, pp. 7-26.

also diminish the incentive for states to keep a few concealed nuclear weapons as a hedge against the possibility that other states might do the same.

However, there are two potential problems with this type of arrangement. First, allowing states to maintain the capability to build nuclear weapons on short notice would make it easier for a state to cheat while making it more difficult to detect cheating. Second, having states poised to resume manufacture and deployment of nuclear weapons could create dangerous instabilities in which states might rush to re-arm during a crisis, thereby worsening the crisis. In order to balance the risks to favor comprehensive nuclear disarmament, international politics, verification and safeguards must interact in ways that do not create such perverse incentives or pressures.

WOULD STATES AGREE TO NUCLEAR DISARMAMENT?

No NWS or any other state desirous of possessing nuclear weapons would want to renounce its nuclear capabilities, however refined or primitive, until it is convinced that some other more reliable means providing for its security is firmly in place. This sense of security can be achieved in two ways:

- By effecting an intrinsic change in the international security environment through the conclusion of several confidences building measures.
- By attaining and establishing a clear superiority of conventional weapons over nuclear weapons.

A transparency in defense matters, more encompassing arms control efforts, strict implementation of all treaties related to disarmament, creation of nuclear weapon free zone, and greater mutual trust underlying interstate relations are some steps that can promote confidence in and the realization of an Nuclear Weapon Free World.

As a prerequisite, besides an overall improvement in international relations, national security could be shored up through adequate conventional weapons to cater for any type of contingency. Several analysts have been highlighting the case for choosing strategic, high precision conventional weapons over their nuclear counterparts because they cause far less collateral damages, and pose lesser threat of escalation than do nuclear

weapons.²⁶ Once this advantage of conventional weaponry over nuclear arms is accepted it is possible that the former would be able to better perform their primary mission of deterrence and thereby relieve nuclear weapons of their role. Committee on International Security and Arms Control (CISAC) has concluded, "... given adequate conventional forces, the active and conspicuous role given to nuclear weapons during the Cold War can be greatly reduced without significant adverse effect on the probability of major war, or on this country's (US) ability to deal effectively with regional conflicts where its vital interests and those of its allies are at stake."²⁷

As a second prerequisite, the states can be expected to renounce their nuclear option only when enough technical expertise is available to ensure adequate verification, that the commitments undertaken by the states to abandon their nuclear arsenals are actually being compiled with. Given that by now START-I is close to completing a decade, and the CTBT and the CWC are in place, it should not be an impossible task to formulate an alert and vigorous enforcement mechanism based on past experiences.

²⁶ Paul H. Nitze, "Is it Time to junk our Nukes?" *Washington Quarterly*, vol. 20, no 3, summer 1997, p. 97.

²⁷ "The Further of US Nuclear Weapon Policy", National Academy of Sciences, Committee on International Security and Arms Control, (Washington D. C., National Academy Press, 1997), p.3.

CHAPTER VI

CONCLUSION

The history of efforts to limit or reduce nuclear weapons has been distinguished by a pattern of talking about measures to control the arms competition while simultaneously intensifying the competition through active nuclear testing. The pattern is accurately described as the 'talk-test-build' process.¹ The consequences of this process were most evident during the 1970's, when the US and the former Soviet Union concluded several agreements intended to lessen the risks of a nuclear war. In the same decade both nations approximately tripled the number of weapons aimed at each other in their strategic nuclear stockpiles. Talks went on slowly, but testing and building nuclear weapons surged ahead much faster. A CTBT would take test out of the arms control process and open the door to series of agreements, which would first freeze and then reduce nuclear arsenals.

A CTBT has become a symbol for ending the nuclear arms race. The principal impetus behind the CTBT now derives from the view that it would inhibit both potential proliferation and weapon development by present nuclear powers. Some disagree with its beneficial impact on horizontal proliferation, citing the possibility that US allies may lose confidence in the US nuclear deterrent and may acquire their own. It is argued that for vertical proliferation a CTBT could only effect a nation's programme for truly modernising its nuclear weapons or developing third-generation nuclear weapons. Testing is not required for ensuring reliability of nuclear weapon stockpiles. Nevertheless, CTBT would have two immediate effects:

- It would eliminate the technological push, which has fuelled the nuclear arms race.

¹ Jozef Goldblat and David Cox eds. Nuclear Weapon Tests: Prohibition or Limitation (Oxford: Oxford University Press, 1988), p.337.

- It would be the urgently needed political signal to a constructive arms control process as an alternative to an expanded arms race on earth and in space. The pursuit of nuclear deterrence through new technology is actually increasing the risk of a nuclear war. A CTBT is the first step towards averting this nuclear war.

Immediate benefit of a nuclear test ban would be its significance as an unambiguous signal of intention. Ending nuclear testing will be a real beginning in confidence building.

Disarmament is a stringent and utopian term, which carries with it the common assumption that it means a 'zero' outcome. Of course, the term disarmament is very vague. Even if feasible, as was accepted by renowned nuclear scientists and strategic experts that it was possible to go down to zero in less than 10 years, a 'zero' outcome is not plausible because no country can disarm to zero level considering its national security interests.

Opponents of nuclear disarmament argue the total disarmament is impractical. Disarmament, according to them does not promote non-proliferation. Even if NWS were to disarm, it would not affect the motives of proliferant states. Disarmament is unlikely to convince potential proliferation that nuclear weapons lack military value.² Whereas the US can expect to prevail in a conventional war, most potential proliferates will either lack this confidence or expect to lose such a war. A potential proliferant could thus argue that the US could afford to disarm because its security does not depend on nuclear weapons. By the same logic a potential proliferant might conclude that its own security depends on acquiring nuclear weapons.

If disarmament meant permanently dismantling nuclear weapons, then clearly it would reduce the likelihood of a nuclear war. Disarming does not eliminate the possibility of rebuilding nuclear arsenals. Since nuclear arsenals can be rebuilt, much of the effort in establishing a disarmament regime would involve designing arrangements to

² Charles L. Glaser, "The Flawed Case for Nuclear Disarmament" *Survival*, vol. 40, no.1 spring 1998, p.120.

provide states with confidence that they would be secure in the disarmed world. The most obvious requirement is that cheating be effectively monitored. However, this would not be sufficient. If one country can rebuild faster than others can, it could have an incentive to rebuild, even if monitoring were highly effective. Deteriorating relations would probably lead states to rearm. Is nuclear war more likely when states are engaged in a nuclear re-armament race or when they already possess nuclear forces? Rearmament race is certainly more dangerous. Although disarmament would bring some benefits, overall the case is not compelling.

Proponents of disarmament argue that disarmament is practical and is the need of the hour. The Cold War's end has removed the rationale for nuclear weapons. This is true particularly in the case of US. The threats to US interests have been reduced greatly and the Gulf war is a very telling example of meeting military challenges with conventional capabilities. In a nuclear disarmed world there would be no incentive for NNWS to develop their own nuclear deterrent.

India's very first articulation on nuclear disarmament, after its emergence as a modern nation state, provided a unique conceptualisation of the term. India has not seen disarmament as an end in itself. The ultimate objective has been to abolish war by removing its cause or goals, as set forth in the UN charter. Within this larger scheme of things, nuclear disarmament has constituted but one step. In order to facilitate its pursuance, India has, from time to time, prioritised its efforts along smaller interim steps, such as placing a freeze on further production of nuclear weapons, putting an end to nuclear testing, negotiating a cut-off in production of fissile materials for weapons and a reduction and eventual destruction of nuclear weapon stockpiles. Similarly a disarmament regime would have to be designed to enable state to re-arm at essentially equal rates,³ so that even if there is re-armament race, it does not become dangerous. Proponents like Jonathan Schell, in this regard say:

³ Thomas Schelling, *Arms and Influence* (New Delhi CT: Yale University Press, 1966), pp.248-59.

... people who say to me that the elimination of nuclear weapons is utopian have somehow managed to completely ignore the fact that the end of the Cold War was a far more utopian prospect than eliminating nuclear weapons is now. Only 10 years ago, the Cold War was a given a seemingly permanent feature on the international landscape.⁴

Once the fear of unknown emerging from nuclear test tunnels is eliminated and nuclear arsenals are frozen, there is tremendous room for downward adjustment in nuclear armament while maintaining and increasing the stability of nuclear balance. At some point, years from now, the arms control efforts could enter the 'end game' phase. At the same time third nation arsenals would have become critical. As Prime Minister Nehru observed:

If world disarmament comes, the world is changed and we are far more secure than we would otherwise be. Obviously, there can be no world disarmament with any major country remaining armed. It is out of the question that even if the Soviet Union, United States of America, England, France and may be some other countries agree to disarmament and China does not, that is not disarmament. In fact, they will never agree to it. You cannot imagine the great or small powers leaving out of any pact on disarmament a mighty power and allowing it to keep all these armaments. It cannot happen. It is not disarmament. When we talk about disarmament, it must apply to countries in appropriate measures.⁵

INDO - US DIFFERENCES

The US believes that South Asia today remains the principal impediment to the global non-proliferation norm. Gaining universal adherence to non-proliferation norm is expected to be one of the major priorities of American foreign policy in the coming years. India on the other hand argues that the elimination of all WMD must be the norm that the world should work for. Having agreed to eliminate biological and chemical weapons, now it is necessary to move in a determined fashion towards the abolition of nuclear weapons.

⁴ Jonathan Schell, The Gift of Time: The Case for Abolishing Nuclear Weapons Now (New York: Henry Holt and Company, Inc., 1998), p. 186.

⁵ Quoted in J.P.Jain, Indian and Disarmament (New Delhi: Radiant Publishers, 1974), p.9-10.

While all states agree on the goal of the ultimate elimination of nuclear weapon they don't agree on how to get there. India, for example, has called for negotiations on nuclear disarmament within a time bound framework. While a specific time frame may sound attractive in abstract, the US believes it to be unrealistic, as years of nuclear arms race cannot be cancelled out overnight.

It was Prime Minister Nehru who in 1954 first called for a ban on nuclear weapon testing and on fissile material production for nuclear weapons. Yet in September 1996, New Delhi sought to block the completion of the CTBT. US consider it to be an apparent shift. India argues for a test ban treaty that is really comprehensive with no loopholes and with no exceptions.

India seems to be intent on improving relations with Asian neighbours-visit of former Prime Minister Rajiv Gandhi to China in 1988, historic water sharing agreements with Bangladesh and Nepal, and a full dialogue partnership of ASEAN. The US argues that in the light of these developments there was no pressing need for India to resume nuclear testing. But India defends its tests asserting that there are fundamental changes in its external security environment, that is, Pakistan and China have become more nuclear threatening and belligerent. Although China formally acceded in March 1992 to the NPT, it is not a member of Nuclear Suppliers Group, which provides guidelines for restraint in export of sensitive technologies like production of heavy water, fuel enrichment and spent fuel reprocessing. China also appears disinclined to forgo tactical nuclear weapons, unlike any other nuclear power. For years India conveyed its apprehension to other countries, but they did nothing to improve its security environment. This disharmony between global thought and trends in Indian thought about nuclear weapons is, unfortunately, the objective reality of the world. Nuclear weapons remain a key indicator of state power since this currency is operational in large parts of the globe. India was therefore left with no choice, but to update and validate the capability that had been demonstrated twenty-four years ago in the nuclear test of 1974.

The US also asserts that the CTBT is non-discriminatory. It enjoins upon all its members to stop nuclear explosion. But it is considered 'flawed' by India, because it fails

to comprehensively define what constitutes an explosion. Provisions of CTBT impose discriminatory restriction on NNWS capability to develop their own nuclear technologies, even for peaceful purposes. India also criticises the Stockpile Stewardship Program, that is, maintaining nuclear weapons without actual testing. India argues that the US has all the necessary data to modernise and upgrade its nuclear arsenals, hence laboratory tests will suffice. But in US, it is believed that it is precisely the inability of laboratory nuclear tests, to predict the outcome of nuclear tests explosion with confidence that makes such explosion necessary. The design technology on which confidence in the reliability of deployed weapons depend cannot be maintained without actual nuclear weapon test data. Laboratory tests will not in the foreseeable future be able to provide a technical substitute for underground nuclear tests.

India says that a test ban alone will do nothing about the 50,000 nuclear weapons. Test ban does not constitute disarmament because it does not do anything about the reduction of nuclear weapons, nor does it place any limits on further weapons production. In US while a test ban alone will do nothing about 50,000 nuclear weapons, it would have immense political and psychological consequences that could open the doors for a new approach on nuclear arms control. In Indian view, non-proliferation doesn't promote disarmament but the US asserts that disarmament doesn't promote non-proliferation because it asserts that, if NWS were to disarm, it would not affect the motives of proliferant states. Thus, the main conflict of interest between India and the US was embodied in 'nuclear disarmament versus nuclear non-proliferation' debate during the CTBT negotiations.

WHY THE US PURSUES THE CTBT?

From its inception in the 1950's, the nuclear test ban has been pursued in order to curb nuclear arms races by preventing the field testing of new and more deadly nuclear weapons. The CTBT was first proposed to cap the US-Soviet arms race. In more recent times, the CTBT has also been pursued because it might head-off regional nuclear arms races.

The 1996 CTBT agreement, endorsed by the UN and signed by 150 nations, aims to 'prohibit nuclear weapon test explosions and all other nuclear explosions' and would significantly help curb new nuclear weapons development. Emphasising this point, Victor W. Sidel of the international physicians for the prevention of nuclear war, has observed:

The Indian ambassador to the CD said that India would 'only accept a CTBT that called for a time bond goal of nuclear abolition. We responded that while we respected India's principled position, we nonetheless believe that the CTBT that being negotiated was better than no CTBT at all and that it would lead towards the goal that India and we were seeking.'⁶

US consider that the CTBT certainly stands in the way of rampart growth in the number of NWS. The treaty's main political benefit is believed to be that by helping to dispel the charge that P5 are perpetuating the Cold War double standard between the nuclear 'haves' and 'have-nots', it would create support for US non-proliferation efforts. Its most important military effect would be to constrain the development of advanced nuclear weapons by the emerging nuclear powers.

WHY INDIA HAS RESERVATIONS?

CTBT bans 'any nuclear weapon test explosions or any other explosion' but the US claims that 'sub-critical' explosions and Inertial Confinement Fusion (ICF) explosion as well as computer simulations central components of the so called stockpile stewardship and maintenance programme (SSMP), are permitted and is conducting such tests. Without a real move by the NWS towards the abolition of nuclear weapons, the CTBT in its current form permits continued vertical proliferation by the NWS, helps the NWS to maintain their nuclear monopoly, is provocative to the nuclear 'have-nots' and may actually intensify the nuclear arms race. CTBT seeks to complete the NWS project to achieve a perpetual and exclusive monopoly as sanctioned by the NPT and is tantamount to a form of nuclear apartheid.

⁶ Victor W. Sidel, 'Should We Continue to Seek Ratification of the Comprehensive Test Ban Treaty', *Medicine and Global Survival*, p.2, available at <http://mars.healthnet.org/MGS/V5N2CTBT Forum.html>.

Seeking disarmament in a time bound framework was seen as unrealistic and the NWS dismissed it even though several nuclear scientists accepted it saying it was possible to go down to 'zero' in less than ten years. India also asserts that disarmament cannot be accepted unilaterally or in a narrow regional or sub-regional framework. India objects to a South Asian nuclear weapon free zone and insist that not only China would have to participate, but that all nuclear powers would have to complete nuclear disarmament.

Most nations of the world have been willing to live with the two-tiered, nuclear/non-nuclear structure of the NPT. This factor is not an issue with chemical or the biological weapons convention, both of which apply to all state without distinction. India has shown resistance to this discriminatory regime.

IMPLICATIONS OF SOUTH ASIAN NUCLEAR TESTS FOR THE CTBT

The South Asian tests have made the risk of nuclear proliferation even more stark, leading to renewed international efforts to secure the CTBT. Forty-six nations issued a joint statement urging Pakistan and India to sign the CTBT and NPT.

The tests might lead other nations to test as well. According to one report, the Japanese Defence Agency fears the tests increase the likelihood that North Korea will attempt to develop its own nuclear arsenal. Richard Murphy, former Assistant Secretary of State for the Near East and South Asia, has warned that Pakistan's tests will add to the motivations of the Iranians to go for the nuclear weapons programme. Secretary of Defence William Cohen, in Senate testimony speculated that India's tests could lead to a chain reaction and that there will be other countries that see this as an open invitation to try to acquire this technology.

On the other hand, Sidney Drell,⁷ Professor of physics at Stanford University, states that the global network of seismic sensors that will form the core of the treaty's verification system did detect, locate, and identify the main nuclear device that India detonated on 11th May 1998. He also says that very low yield tests are of questionable value in designing and confirming whether a new design will work as intended. Any failure by monitors to detect such tests is not the proper benchmark for determining the effectiveness of either the verification systems or the treaty. Moreover, an official review of the intelligence failure provided a number of lessons that may help avert such failures in the future. The failure of US intelligence to detect India's tests preparations despite many Indian statements prior to May about testing and despite knowing the location of India's test site may make US ability to detect other nation's test preparation less credible. This could weaken US and international ability to forestall tests. The intelligence failure also makes the threats of clandestine tests more serious.

PROSPECTS FOR CTBT'S ENTRY INTO FORCE

Two factors are likely to determine when the CTBT will enter into force. First is the timing of the ratification of the treaty by the P5. The other is willingness of the two prominent holdouts - India and Pakistan - to reverse the course and sign the treaty. North Korea and Israel may also delay ratification.

Ratification of the CTBT is expected to be a difficult and arduous process. While the Clinton administration expressed optimism that Senate's consideration of the treaty will proceed expeditiously, the May 1998 nuclear tests in South Asia triggered new statements of scepticism and opposition to the CTBT by the US Senators. Securing Senate's ratification of the CTBT already seemed an uphill task; now it will become much steeper. With respect to the question whether India and Pakistan would be willing to sign the treaty this seems even more unlikely after the May 1998 tests. India has stated

⁷ Quoted in Richard P. Cronin, "India-Pakistan Nuclear Tests and US Response" *CRS Reports for Congress*, 'India-Pakistan Nuclear Tests and US Response', June 18, 1998, p.15.

that it will not sign CTBT unless the treaty includes a time frame for complete disarmament and Pakistan has said that it will not sign the treaty until its concerns about its neighbour one put to rest.⁸

If the treaty does not enter into force by September 24, 1999, the nations that would have ratified the treaty by then could meet and seek a consensus on a set of measures to accelerate the ratification process, in order to facilitate the treaty's early entry into force. The treaty does not identify what procedural options would be available to the parties, but these option would most likely include bringing the treaty into force provisionally, as was done in the cases of Conventional Armed Forces in Europe treaty (CFE) and General Agreement on Tariffs and Trade (GATT).

WHAT IS THE OUTCOME?

Ever since the Pokhran-II series of nuclear tests conducted by India, burgeoning economic and security ties between India and US have been punctuated, and political ambience in the bilateral relationship have been marked either by unfriendly rhetoric or by persistent defiance. While the Indian nuclear tests surprised all, including the powerful intelligence community of the US, India has been surprised by the wild reactions of some influential Americans.

A dialogue with US began only in June 1998 when the US Deputy Secretary of State, Strobe Talbott met Jaswant Singh to exchange opinions on the tests. The important US-India dialogue though started bilaterally, was made more difficult because both sides had already a number of fixed positions. US enunciated a number of steps that it felt India had to take to undo the diplomatic and economic damage done to its image by the nuclear tests. The US says that India should sign the CTBT without conditions, and initiate a dialogue with Pakistan to resolve outstanding bilateral disputes. The US also says that India should convert its de facto moratorium on nuclear testing into a de jure one and

⁸ Parminder Brar, "India and Pakistan Ambassadors Explain CTBT Positions", USIS, Washington File, June 12, 1997, p.2.

should rejoin the FMCT negotiations. US wants India to accept full scope safeguards on all its nuclear facilities says that India must desist from any missile deployment and any further nuclear weaponisation.

The Indian government's response revolved around two concerns, one military and other political. The military concern was New Delhi's determination that India would agree to nothing that would get in the way of its ability to build a minimum deterrent force. At least this would consist of a score or more nuclear warheads and fully tested solid full intermediate range missile. This would preclude India from agreeing to any halt on the development and testing of ballistic missiles.⁹ An additional complication was that India could not negotiate the FMCT in good faith, unless it was certain the official material cut off would not effect India's ability to build its minimum deterrent. A similar problem would exist with the question of full scope safeguards on all Indian nuclear facilities.

By mid-July 1998 both India and US began paving the way for an agreement between the two countries by jettisoning some of their more obvious postures. The simple fact of normal lines of diplomatic communication being reopened was a major step. They were so disrupted after the test that the US ambassador to India complained in June 1998, that a lot of Indo-US diplomacy was done in the headlines rather than in direct diplomatic communications.¹⁰

The earlier Indian stand was that it would like a test ban to cover sub-critical and PNE tests and that India would consider signing parts of the CTBT. In contrast, an initial negotiation stance was outlined listing demands that would not require amending the CTBT. In demanding an end to sanctions and an end to ban on dual-use technology, concessions were asked that were external to the text of the CTBT. On the other hand by rejecting both full scope safeguards and any freeze on further missile development, it was made clear that India would its defend weaponization option. The US returned the favour,

⁹ Times of India, July 11, 1998.

¹⁰ Richard Celeste's interview in Economics Times, June 23, 1998.

in a testimony before the US Senate on 13 July 1998, when US officials downsized Washington's South Asian non-proliferation objectives. They made no mention of India having to sign the NPT or rollback its nuclear programme through these had been part of the statement's and resolutions issued by P5 and the G-8. During the said testimony Karl Inderfurth dropped earlier US objection to India testing and developing missile's and expressed only opposition to their deployment. He went further saying, "we must be realistic about what we can ask the two countries to do... certain developments (like missile testing) will go ahead." As India brought lifting of US economic sanctions to the top of its agenda, it was difficult for US officials to carry out the normal tit for tat required in diplomacy. The Senate agreed to empower the White House to lift sanctions for one year pending 'substantial progress' on the non-proliferation front.¹¹

These statements had followed in the wake of the second Singh-Talbott meeting, which was held in Frankfurt, Germany. They indicated India's arguments in favour of a weaponization option, had been largely accepted by the US. India declared a voluntary moratorium on testing. At the most basic level this would mean India evolving its simple test moratorium into an eventual compliance with a verifiable, formal comprehensive test ban in return for at least a temporary suspension of sanctions. Such evolution could include, for example, India having its tests monitoring institutions rejoin the network that monitors CTBT compliance around the world. The US also wanted the Vajpayee Government to make a public statement expressing India's commitment to signing the CTBT. This reportedly was seen as minimal requirements for Clinton to go ahead with its Indian visit. New Delhi, on the other hand, argued it was not politically feasible to sign the CTBT immediately after the emotional campaign waged against the treaty in the last few of years. However, it is clear the US sees the India's signing the CTBT in the near future.

The board trends in the US-Indian nuclear agreement are relatively clear after several rounds of confidential meeting. While it is clear that a final agreement would

¹¹ Indian Express, July 5,1998.

obviously take time largely because of domestic political uncertainty in New Delhi, the two sides are moving towards a series of calibrated responses. How far and fast such step for step measures would proceed, would depend on political circumstances.

Today India-US nuclear relations have come a full circle. In the 1950 when India was pushing for a comprehensive ban on nuclear testing the US did not evince much interest in these matters due to its security compulsions. Today India faces the same security challenges and is steadfast in its opposition of the present CTBT, which is being zealously pursued by the US. This reversal of positions owes itself to the fluidity of the International order. Only when the Indian security concerns are accommodated in establishing a unified global security regimes like the CTBT can the world hope to have a truly comprehensive, non-discriminatory and universal CTBT to help banish the scourge of nuclear weapons from the world for all time to come.

BIBLIOGRAPHY

Primary Sources

- Annual Report, Ministry of External Affairs, Government of India, (New Delhi, 1996-99).
- India and Disarmament, Ministry of External Affairs, Government of India, (New Delhi, 1996-99).
- UN, General Assembly Debates (New York, 1990-98).
- UN, Security Council Debates (New York, 1990-99).

Congressional Documents

- CRS Issue Brief, (Washington D.C., 1996-99).
- CRS reports for Congress (Washington D.C., 1996-99).
- US, Congressional Digest (Washington D.C., 1996-1999).
- US, Congressional Quarterly Researcher (Washington D.C., 1996-99).
- US, Congressional Records (Washington D.C., 1990-99).
- US, Department of State Bulletin (Washington D.C., 1996-99).
- USIS, Official Text (Washington D.C., 1996-99).
- _____, Backgrounder (Washington D.C., 1996-99).
- _____, Fact Sheet (Washington D.C., 1996-99).
- _____, Wireless file (Washington D.C., 1996-99).

Congressional Hearings

- Proliferation Threats Through The Year 2000, Hearing Before the Committee on Foreign Relations United States Senate 105th Congress First Session, October 8, 1997. (Washington, D. C.: U. S. Government printing office, 1998).
- Review of the Clinton Administration Non Proliferation Policy Hearing before the Committee on International Relations House of Representatives, 104th Congress, Second Session, June 19, 1996. Washington D. C.: U.S. Government Printing office, 1996).

Secondary Sources

Books

- Arnett, Eric, Implementing the Comprehensive Test Ban: New Aspects of Definition, Organisation and Verification (New York: Oxford University Press Inc. SIPRI 1994).
- Bailey's Kathleen C., Doomsday Weapons in the Hands of Many: The Arms Control Challenge of the '90s (Oxford: University of Illinois Press, 1992).
- Bailey's Kathleen C., Doomsday Weapons in the Hands of Many: The Arms Control Challenge of the '90s (Oxford: University of Illinois Press, 1992).
- Bailey's Kathleen C., Weapons of Mass Destruction: Costs v/s Benefits, (New Delhi: Manohar Publishers and Distributors, 1994).
- Bajpai Kanti, Brasstacks and Beyond: Perception and Management of Crises in South Asia (New Delhi: Manohar and Columbia M O: South Asia Books, 1995)
- Berkowitz, Bruce D., Calculated Risks: A country of arms control, why it has failed, and how it can be made to work (New York: Simon and Schuster, 1987).
- Blair, Bruce G., The logic of Accidental Nuclear War, (Washington D. C.: Brookings Institution, 1993).
- Chari P.R., Indo-Pak Nuclear Standoff (New Delhi: Manohar and Columbia M O: South Asia Books, 1995)
- Chari, P.R., and Others: Nuclear Nonproliferation in India and Pakistan: South Asian Perspectives, (New Delhi: Manohar Publishers and Distributors, 1996).
- Chellaney, Brahma, Nuclear Proliferation: The US-Indian Conflict (Hyderabad: Orient Longman Limited, 1993).
- Cimbala, Stephen J, The Past and Future of Nuclear Deterrence (West Port, Connecticut, London; Praeger Publishers, 1998).
- Cimbala, Stephen J., Force and Diplomacy in the Future, (New York, West Port, Connecticut London: Praeger Publishers, 1992).
- Cimbala, Stephen J., U. S. Military Strategy and the Cold War Endgame (London: Frank Cass Publishers, 1995).
- Cimbala, Stephen J., U.S. Nuclear Strategy, In the New World Order: Backward Glances, Forward Looks (New York: Paragon House, New York 1993).
- Cohen Stephen P. ed., Nuclear Proliferation in South Asia: The Prospects for Arms Control (Boulder: Westview Press, 1991)
- Cortright, David and Mattoo Amitabh, eds., India and the Bomb: Public Opinion and Nuclear Options (Notre Dame: University of Notre Dame Press, 1996)
- Drell Sidney, Reducing Nuclear Danger: The Road Away From the Brink (New York: Council of Foreign Relations, 1993).

- Dunn, Lewis A., Controlling the Bomb: Nuclear Proliferation in the 1980s (New Haven, Conn: Yale University Press, 1982).
- Fischer, David, Towards 1995: The Prospects for Ending the Proliferation of Nuclear Weapons (Brookfield: Dartmouth Publishing company, 1993).
- Forsberg, Randall, and Others, Nonproliferation Primer, Preventing the Spread Nuclear Chemical and Biological Weapons (London: The MIT press, Cambridge, Massachussets, 1995).
- Frankel, Francine R., Bridging the Non-Proliferation Divide: The United States and India (Lanham, M D: University Press of America, 1995)
- Freedman, Laurence, The Price of Peace: Living with the Nuclear Dilemma, (New York: Henry Holt and Company, 1986).
- Ganguly, Sumit and Ted Greenwood, Mending Fences: Confidence and Security Building Measures in South Asia (Boulder: Westview Press, 1996)
- Gardner, Gary T., Nuclear Nonproliferation, (Boulder, Colorado US: Lynne Rienner Publishers, Inc., 1994).
- Goldblat, Jozef and David Cox, Nuclear Weapon Tests: Prohibition or Limitation? (New York: Oxford University Press, SIPRI, 1998).
- Jain, B.M., Nuclear Politics in South Asia: In Search of an Alternative Paradigm, (Jaipur: Rawat Publications, 1994).
- Jain, J.P., Nuclear India, Vols. 1 and 2 (New Delhi: Radiant Publishers, 1974).
- Kapur, Ashok, India's Nuclear Option: Atomic Diplomacy and Decision-Making (New York: Praeger 1976).
- Kegley, Charles W., Jr. and Kenneth L. Schweb (SanFransico, Oxford: West view Press, 1991).
- Kolkowicz, Roman and Joeek Neil, Arms Control and International Security, (Boulder and London: Westview Press, 1984).
- Krass, Alan S., The United States and Arms Control: The Challenge of Leadership (West port, Connecticut, London: Praeger, 1997).
- Kristensen, Hans M., Nuclear Futures: Proliferation of Weapons of Mass Destruction and US Nuclear Strategy (British American Security Information Council, Basic Research Report 1998).
- Mattoo, Amitabh, India's Nuclear Deterrent: Pokharan II and Beyond (New Delhi: Har Anand Publications Pvt. Limited, 1999).
- Moshaver, Ziba, Nuclear Weapons Proliferation in the Indian subcontinent (New York: St. Martin's press 1991).
- Muller Harold and David Fischer, Nuclear Nonproliferation and Global Order, (Oxford: New York University Press, SIPRI 1994).

- Nair, Brigadier Vijai K., Nuclear India, (New Delhi: Lancer International, 1992).
- Oelgeschlager, Gunn and Hair, Publishers, Inc., 1982).
- Ollapally, Deepa and S. Rajagopal, The Nuclear Cooperation: Challenges and Prospects, (Banglore: Tyrox Press, 1997).
- Pande, Savita, India and the Nuclear Test Ban, (New Delhi: Shri Avatar Printing Press, 1996)
- Potter, William C, Nuclear Power and Nonproliferation: An Interdisciplinary Perspective (Cambridge, Massachusetts: Oelgeschlager, Cunn and Hair, Publishers, Inc. 1982)
- Potter, William C., Nuclear Power and Nonproliferation: An Interdisciplinary Perspective (Cambridge, Massachusetts :
- Poulose, T.T., ed., Perspectives of India's Nuclear Policy (New Delhi: Young Asia Publications, 1978).
- Poulouse T.T., The CTBT and the Rise of Nuclear Nationalism in India, (New Delhi: Lancer Books, 1996)
- Ramburg Bennett, Arms Control without Negotiation: From the Cold War to the New World Order, (Boulder and London: Lynne Rienner Publishers, 1993).
- Reiss Mitchell, Bridled Ambition: Why Countries Constrain Their Nuclear Capabilities (Washington, D.C.: John Hoppkins University Press, 1995).
- Reiss, Mitchell, The politics of Nuclear Nonproliferation (New York: Columbia university press, 1988).
- Rotblat, Joseph, Nuclear Weapons: The Road to Zero (Boulder, Colarado US, Westview Press, 1998).
- Schell, Jonathan, The Abolition, (New York: Avon Books, 1984).
- Schelling, Thomas C., Arms and Influence, (New Haven, CT: Yale University Press, 1996).
- Singh Jasgit, Nuclear India (New Delhi: Knowledge World, July 1998)
- Singh Jasgit, The Road Ahead: Indo-US Strategic Dialogue (New Delhi: Lancer International. 1994)
- Singh, Jasgit, Abolishing Nuclear Weapons: Why and How? (New Delhi: Institute for Defence Studies and Analysis, 1997)
- Spector, Leonard S., The Undeclared Bomb (Cambridge: Mass Ballinger, 1988).
- Subrahmanyam, K., India and the Nuclear Challenge (New Delhi: Lancer International, 1986).
- Subrahmanyam, K., India and the Nuclear Challenge, (New Delhi: Lancer International, 1986).

- Sunderji, General K., Blind Men of Hindoostan: Indo- Pak Nuclear War (New Delhi: UBS Publishers, 1993)
- Thomas, Raju G.C., The Nuclear Nonproliferation Regime: Prospects for the 21st Century, (New York: St. Martin's Press, Inc., 1998).
- Turner, Stansfield, Caging the Nuclear Genie: An American Challenge for Global Security (Boulder, Colorado: Westview Press, 1997).
- Waslekar, Sandeep, Abolishing Nuclear Weapon: Rajiv Gandhi Plan Remisited (Urbana: Program in Arms Control, Disarmament and International Security, University of Illinois, July 1994)
- Williams, Shelton, The U. S., India and the Bomb (Baltimore: The Johns Hopkins University Press, 1969).
- Williams, Shelton, The U.S., India and the Bomb (Baltimore: The Johns Hopkins University Press), 1969.
- Zones, Rodney W., Mark G. Mc Donough, Toby F. Dalton and Gregory D. Koblentz, Tracking Nuclear Proliferation: A Guide in Maps and Charts, 1998, (Washington D.C.: The Brooking Institution Press, 1998)

Articles in Periodicals

- Bagchi, K. N., "Double Standard Issues: Security Assurances of the Nuclear Non-proliferation Treaty and the comprehensive test box Treaty", Asian Studies (Calcutta), vol. 15, No. 1, 1996, pp.30-1.
- Bell, Robert, "The Issues Behind The CTBT Treaty Ratification Debate", Arms Control Today, (Washington D.C.), Vol.27 No.7, pp.6-8
- Bidwai, Praful and Achin Vanaik, "A very Political Bomb". The Bulletin of Atomic Scientists (Chicago), vol. 54, no. 4, July/August 1998, pp. 50-2
- Burns, William F., "The Future of U.S. Nuclear Weapons Policy", Arms Control Today (Washington D. C.), vol.27 no.7 October 1997, pp. 3-5.
- Butler, George Lee, " The General's Bombshell: Phasing out the US nuclear Arsenal", Washington Quarterly (Cambridge), vol. 20, no.3, summer 1997, pp. 131-35.
- Butler, Lee "A voice of Reason", The Bulletin of Atomic Scientists, vol. 54, no.3, May/June 1998, pp. 58-61
- Cambone, Stephen A., and Patrick J. Garrity, "The Future of US Nuclear policy" Survival (Oxford), vol. 36, no. 4, winter 1994-95, pp. 90-96.
- Cerniello, Craig, "India Blocks Consensus on CTBT: Treaty May go to UN" Arms Control Today (Washington D.C.), vol.26, no.6, August 1996.
- Chari, P.R., "An Indian Reaction to U.S. Non-proliferation policy", International Security (Cambridge), vol. 3, no. 2, Fall 1978 pp. 57-8.

- Dalton, Toby F., "Toward Nuclear Rollback in South Asia", Current History (Philadelphia), December 1998, vol.97, no.623, pp. 412-417.
- Dhanapala, J., "Fulfilling the Promise of the NPT: The CTBT and Beyond," Arms Control Today, May/June 1996, vol.26, no.4, pp. 3-6.
- Faulkner, Andrea, "CTBT: Towards its Entry Into Force", Strategic Digest (New Delhi), vol. XXVIII, no.5, May 1998, pp. 752-58
- Fetter, Steve and Denin T. Hagerty, "Nuclear Deterrence and the 1990 Indo-Pakistani Crises", International Security (Cambridge), vol. 21, no. 1, summer 1996, pp. 176-185.
- Garwin, Richard L., "The Future of Nuclear Weapons Without Nuclear Testing", Arms Control Today (Washington D.C.), vol.27, no.8, November/December 1997, pp. 3-11.
- Ghose, Arundhati, "Negotiating the CTBT: India's Security Concerns and Nuclear Disarmament", Journal of International Affairs (London), vol. 51, no.1, summer 1997, pp. 239-61.
- Ghosh, Shekhar, "Dynamics of Nuclear Arms Control: Case of the CTBT" India quarterly: A Journal of International Affairs (New Delhi), vol. L II, no. 4, October-December 1996, pp. 1-18.
- Glaser, Charles L., "The Flawed Case For Nuclear Disarmament", Survival (Oxford), vol. 40, no.1, spring 1998, pp. 12-28.
- Hagerty, Devin T., "Nuclear Deterrence in south Asia: The 1990 Indo-Pakistani Crisis", International Security (Cambridge), vol. 20, no.3, winter 1995/96, pp.79-114.
- Hoffman, Wolfgang, "The Future of the Comprehensive Nuclear – Test-Ban Treaty: Ensuring the CTBT's Implementation" Strategic Digest (New Delhi), Vol. XXVIII, no.5, May 1998, pp. 741-744.
- Holum, John D., "The CTBT and Nuclear Disarmament – The U.S. View", Journal of International Affairs (London) vol. 51, no. 1, summer 1997, pp. 263-81.
- Ikle, Fred Charles, "The Second Coming of the Nuclear Age", Foreign Affairs (New York) vol. 75, no.1, January/February 1996, pp. 119-28.
- Ikle, Fred, Charles, "Facing Nuclear Reality", Washington Quarterly (Cambridge), vol. 20, no.3, summer 1997, pp. 87-90.
- Johnson, Rebecca, "Multilateral Arms Control: Can the CD Break the impasse?" Arms Control Today (Washington D. C.), vol.27, no.8 November/December 1997, pp. 17-21.
- Johnson, Rebecca, "The Arms Control Agenda at the UN: Breaking New Ground or Breaking Old Habits?" Arms Control Today (Washington D.C.), vol.26 no.10, January/February, 1997 pp. 8-13.
- Joseph, Robert G., and John F. Reichart, "The Case for Nuclear Deterrence Today", Orbis (Samford, Connecticut), vol. 42, no.1, winter 1998, pp. 7-19.

- Keeny, Spurgeon M. and Craig Cerniello, "The CTB Treaty: A Historic Opportunity to Strengthen the Nonproliferation Regime", Arms Control Today (Washington D. C.) August 1996, vol. 26, no. 6., pp. 15-16.
- Koch, Andrew and Sidhu, Waheguru Pal Singh, "Subcontinental Missiles", The Bulletin of Atomic Scientists (Chicago), vol. 54, no. 4, July/August 1998, pp. 44-9.
- Kumar, Arvind, "United States: Nuclear policy", Strategic Analysis (New Delhi), vol. XIX, no.2, pp. 195-207.
- Mahapatra Chintamani, "Indo-American Relations on the Threshold of the 21st century", Strategic Analysis (New Delhi), vol. XXII, no. 2, May 1998, PP. 155-168.
- _____, "Pokhran II and After: Dark clouds over Indo-US Relations", Strategic Analysis (New Delhi) vol. XXII, no. 5, August 1998, pp. 711-20.
- Mallin, Maurice A., "CTBT and NPT: Options for U.s. policy, the Non Proliferation Review (Monetary) vol. 2, no. 2, winter 1995, pp. 1-11.
- Mann, Paul, "Test Ban Pact in Jeopardy", Aviation Week and Space Technology (New York), vol.148, no.20, May 18, 1998, p.31.
- Mansingh, Surjit, "United States Policies in South Asia the 1990s", South Asian Survey, vol. 4, no.2, 1997, pp. 277-94.
- Mattoo, Amitabh, "India's Nuclear Status Quo", Survival (Oxford), vol. 38, no.3, autumn 1996, pp. 41-57.
- Mazarr, Michael J., "Virtual Nuclear Arsenals", Survival (Oxford), Vol. 37, no.3, autumn 1995, pp. 7-26.
- MC Namara, Robert S, "The Military Role of Nuclear Weapons, Perceptions and Misperceptions", Foreign Affairs (New York), vol.62, no 1, autumn 1983 p.79
- Mehta, Pratap Bhanu "India: The Nuclear Politics of Self-esteem:", Current History (Philadelphia), vol.97, no.623, December 1998, pp. 403-411.
- Nitze, Paul H., "Is it time to junk our nukes", Washington Quarterly, Vol. 20, no. 3, summer 1997, pp. 97-101.
- Olapally, Deepa And Raja Ramanna, "US-India, Tensions – Misperceptions on Nuclear Proliferation", Foreign Affairs (New York), vol. 74, no.1, January/February, 1995, pp. 13-18.
- Panovsky, K. H. Wolfgang and George Bunn, "The Doctrine of the Nuclear Weapon States and the Future of Non-proliferation", Arms Control Today, (Washington D. C.), vol. 24, no.6, July/August 1994, pp. 3-6.
- Perkovich, George, "India's Nuclear Debate; Unlocking the door to the CTBT", Arms Control Today (Washington D. C.), vol.26, no.4, May/June 1996, pp. 11-16.
- Quester, George H. and Victor A. Utgoff, "Towards an international nuclear security policy," Washington Quarterly, (Cambridge) vol. 17, no.4, pp. 5-18.

- Quinlan, Sir Michael, "The Future of Nuclear Weapons in World Affairs", Washington Quarterly (Cambridge) vol. 20, no.3, summer 1997, pp. 137-141.
- Sagan D., "The Perils of Proliferation: Organization Theory, Deterrence Theory, and the Spread of Nuclear Weapons", International Security (Cambridge), vol.18, no.4, spring 1994, pp. 74-102.
- Schell Jonathan, "The Abolition", Washington Quarterly (Cambridge) Vol. 20, no. 3, summer 1997. pp. 143-151.
- Schlesinger, James R., "Nonproliferation and US Nuclear Policy, Washington Quarterly (Cambridge), vol. 20, no.3, summer 1997, pp. 103-106.
- Sethi, Manpreet, "Nuclear Disarmament in the 1990's: Finding Paths for the Future", Strategic Analysis (New Delhi), vol. XXII, no.2, May 1998, pp. 155-68.
- _____, "Towards making nuclear disarmament a practical proposition," Strategic Analysis, (New Delhi), vol. XXII, no.3, June 1998, pp. 409-20.
- Singh, Jaswant, "Against Nuclear Apartheid", Foreign Affairs (New York), vol. 77, no.5, September/October 1998, pp.41-52.
- Smith, Harold P. and Richard S. Soll, "Challenges of Nuclear Stockpile Stewardship under a Comprehensive Test Ban, Arms Control Today (Washington D. C.), vol. 28, no.2, March 1998, pp. 3-6.
- Walker, William, "International Nuclear Relations after the Indian and Pakistani Test Explosions," International Affairs (Oxford), vol. 74, no.3, July 1998, pp.
- Waltz, Kenneth, "Thoughts about Virtual nuclear arsenals", Washington Quarterly (Cambridge), vol. 20, no.3, summer 1997, pp. 153-161.
- Yamada, Chusei, "The CTBT: "A Step Towards a Nuclear Free World", Strategic Digest (New Delhi), vol, XXVIII, no.5, May 1998, pp. 745-51.

Articles available at Internet

- Lindsey, George, "How Much Nuclear Deterrence is Enough ?", National Network News available at http://www.sfu.ca/~dann/nn4-1_5.htm
- Sidel, Victor W. and Dary Kimball, "Should We Continue to Seek Ratification of the Comprehensive Test Ban Treaty?", Medicine and Global Survival available at <http://mars.healthnet.org/MGS/V5N2CTBTForum.html>.
- Schilling, Walter, "Abolishing Nuclear Weapons _ A Realistic Perspective"? Available at http://www.ism.ethz.ch/au_pol/schill2.htm.
- Spring, Baker, "Will America Remain A Nuclear Power? Implications of Clinton's Nuclear Test Ban", available at <http://www.heritage.org/library/categories/natsec/em427.html>.

Gaffney, Frank, "Clinton Policies Take US on Path to Disarmament," Defence News available at <http://www.security-policy.org/papers/1996/96-D63at1.html>.

Mastrapa, Amando F., "India and Pakistan: An Asian Nuclear Peace", available at http://www.mastrapa.home.mindspring.com/asian_nuclear_peace.html.

Walker, Willam, "India's Nuclear Labyrinth", The Non-proliferation Review, fall 1996, vol.4, no.1, available at <http://cns.miis.edu/pubs/npr/walker41.htm>.

Viswam, S., "Nuclear India's Reservation on CTBT", India-perspective, special edition of August/September 1998 available at <http://www.webspawner.com/users/indianuke9/>.

Newspapers

Indian Express (New Delhi)

International Herald Tribune (Paris)

The Hindu (Chennai)

The Hindustan Times (New Delhi)

The New York Times

The New York Times Index

The Pioneer (New Delhi)

The Times (London)

The Times of India (New Delhi)

The Washington Post