

The Comprehensive Test Ban Treaty: Assessing the Historical and Future Prospects in the South Asian Context

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ABSTRACT

Catastrophic effects of nuclear bombing on Hiroshima and Nagasaki in Japan compelled the international community to take measures in order to avoid radioactive fallouts of nuclear weapons and this gave impetus to the debate of nuclear disarmament. However, major powers remained reluctant to relinquish their supremacy attained through such technological advancements. As part of these efforts, the Comprehensive Test Ban Treaty (CTBT) was finally concluded and became open for signatures in 1996. CTBT is widely considered as one of the key arrangements of nuclear non-proliferation eventually leading to achieve the international objective of nuclear disarmament. However, owing to strategic calculations some major States have either not signed or not ratified the treaty. Unless the treaty is signed/ratified by the major hold out States, legally, it cannot come into force. Considering past and present trends, CTBT is likely to face the challenge of brining hold out States in its ambit. Thus, chances of CTBT coming into force seem dim in calculable future.

1. Introduction

Comprehensive Test Ban Treaty (CTBT) is generally regarded as one of the major steps towards nuclear disarmament and global security. The fundamental principle of the treaty requires Member States to refrain from conducting nuclear tests for any purpose on the surface, underground, underwater and the atmosphere. However, most of the instruments related to nuclear nonproliferation and disarmament have hardly met any substantial progress in relation to their stated objectives. The concept of nuclear deterrence has remained the central point of nuclear nonproliferation and disarmament discussions. The quandary attached to the question, how many and what types of nuclear weapons would be sufficient to achieve minimum yet credible level of nuclear deterrence, has partly led to deferment in making progress to the very objective of disarmament. Likewise, the CTBT is no exception.

Historically, with the use of nuclear weapons by United States of America in 1945, superpowers of the time began to seek means to limit the possession of nuclear weapons by other states. This approach gave birth to the concept and efforts for nonproliferation with the ultimate objective of disarmament. To reach the goal of arms control and disarmament various bilateral and multilateral treaties were introduced. However, the fate of all such efforts remained highly dependent on the political will and national interests of major powers, the CTBT is one of them. The movement on CTBT dates back to 1950s. The basic idea of a comprehensive test ban was to protect international atmosphere from the dangerous radiations. On the political and strategic side, it was envisaged to halt qualitative arms race among nuclear weapon states. Thus,

the primary objective of the CTBT is to restrict nuclear weapons States to further develop or test nuclear weapon and to hold off States aspiring from developing nuclear weapons. To ensure these objectives, CTBT along with its verification regime, consisting of seismic, hydroacoustic, infrasound and radionuclide monitoring stations around the world monitors States activities [1].

After a decade of being curtailed, the CTBT debate rejuvenated on the international floor, thereby contemporary time is being considered as a high time of shaping countries position and decision on the CTBT. Former U.S. President Barack Obama's agenda of 'Global Zero' gave new impetus to the CTBT debate as help edged in April 2009 Prague speech to "immediately and aggressively" ensure U.S. ratification of the CTBT. Previously, Obama's stated intentions for nuclear disarmament largely publicized his perspective on the CTBT for seeking U.S. ratification, alongside engaging hold out States including India to move forward for the enforcement of the Treaty. However, like earlier administrations, Obama administration also failed to ratify the treaty. Despite U.S. confidence and investment in enhancing national verification capabilities and stewardship program to conduct computer simulation for nuclear testing instead of going for hot testing, uncertainty related to North Korea's nuclear posture may also obstruct current Administration's consideration for ratifying the CTBT.

Thus far, no substantial progress towards enforcing the treaty has been made. Among states that have signed the treaty but not ratified it includes the United States of America and China. While, India, Pakistan and North Korea have neither signed nor ratified the treaty. In the context of South Asia, nuclear weapons were formally

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introduced in the region when India conducted its first nuclear test, labeled as 'peaceful nuclear explosions' (PNE) on 18th May 1974 in Pokhran, Rajasthan desert with code name of *Smiling Budha*. In the context of South Asia, India, since the beginning of treaty's negotiations, remained actively involved but did not signed the treaty.

On 11th and 13th May, 1998 India officially announced and conducted nuclear weapon tests in Pokhran. To ensure security, self-defense and sovereignty, Pakistan reciprocated by conducting nuclear tests on 28th May 1998. Nuclear tests were perceived by the International community as violation of the "political norms" after most of the declared nuclear weapon States (NWS) were observing unilateral moratoria on nuclear testing. In fact, nuclearization of South Asia brought CTBT back in the spot light.

The scope of this paper is aimed to broadly discuss and examine the CTBT and its future prospects while analyzing hold out states' status including New Delhi's position, security concerns and future discourse in this regard.

2. Historical Background

The CTBT is described as the "longest sought and hardest fought for" arms control treaty in history, because since early 1954 when Indian Prime Minister Jawaharlal Nehru proposed a 'nuclear testing standstill' agreement – later submitted to the United Nations Disarmament Commission (UNDC) – negotiations for a comprehensive test ban have been continued either on multilateral or bilateral levels and forums [2]. Despite decades of intermittent negotiations, nuclear weapon States could not agree to completely ban the nuclear testing. The CTBT negotiations began at the Conference on Disarmament in January 1994. However, negotiations ended without agreement due to differences over the scope of the treaty. Initially, declared nuclear weapons States favored a treaty allowing low yield hydro-nuclear tests as in mid 1950s, the U.S. and Soviet Union had started testing high yield thermonuclear weapons in the atmosphere that invited a great deal of international criticism. Therefore, the Partial Nuclear Test-Ban Treaty (PTBT), signed in 1963, prohibited nuclear testing in outer space, the atmosphere and under water, but not underground [3].

The CTBT was negotiated at the floor of Conference on Disarmament adopted by the UN General Assembly and was then opened for signature in September 1996. As of 2018, total Member States of the CTBT are 196 wherein the treaty is signed by 183 States and ratified by 166 States [4]. For the treaty to enter into force, ratification is required from the 44 States mentioned in Annex-2 of the treaty's text that mainly includes China, Egypt, India, Iran, Israel, North Korea, Pakistan and the USA. Among these States, India, North Korea and Pakistan have yet to sign the treaty. However, primarily major powers proposed and later

observed unilateral moratorium on nuclear testing. Hence, beside de-jure nuclear weapon States, India is also observing nuclear testing moratorium in accordance with international commitment for the objective of nuclear nonproliferation and disarmament.

3. Main Provisions of the Treaty

The CTBT prohibits nuclear explosions for any purpose either peaceful or military drives. The treaty comprises of a preamble, 17 articles, two annexes and a Protocol with two annexes. Articles I–V outlines basic obligations under the treaty, while ensuring global implementation through establishing the Comprehensive Test Ban Treaty Organization (CTBTO) mandated for verification mechanism. Articles VI–XV deal with procedures related to signature, ratification, entry into force amendments to the treaty text, dispute settlement and reservation concerning the treaty. Articles XVI and XVII refer to the depositary and official languages of the treaty. Annex 1 provides geographical region for states parties for the purpose of executive elections for the organization while Annex-2 refers to hold out states that are required to ratify for its entry into force [5].

4. The CTBT Verification Mechanism

In order to detect any nuclear test, CTBTO has established a verification apparatus comprise of globally installed various seismic, hydroacoustic, infrasound and radionuclide monitoring stations. The International Monitoring system (IMS) is comprised of about 337 facilities that collect and transmits the data. The monitoring data collected by these stations is transmitted to International Data Center (IDC) of the CTBTO for analysis. The data is shared with contracting State parties only. States that are not party to the CTBT are considered to be at disadvantage by not having access to the monitoring data and building capacity for analyzing the technical information.

In addition to data monitoring and analyses CTBT has the provision of conducting on-site inspection as a verification tool. However, on-site inspection can only be carried out once the treaty comes into force. Since it has not entered into force such inspection has not been carried out.

5. Annex-2 of the CTBT and Hold out States

For entry into force, CTBT requires ratification from the 44 States mentioned in Annex-2 of the treaty's text including China, Egypt, India, Iran, Israel, North Korea, Pakistan and the USA. Among these States, India, North Korea and Pakistan have yet to sign the treaty.

Generally, framework of realism dominates in the international politics and relations wherein States preferably pursues protection and promotion of national interest rather than observing International norms and obligations. Based on overall realist worldview of international politics, States follow the pursuit of

supporting international peace and security while addressing their own security imperatives vis-à-vis in the region(s). Thus, holdout States including U.S. China, Democratic People's Republic of Korea, also known as North Korea, India and Pakistan proved to be no exceptions owing to their own perspective and security dynamics associated with such arrangements.

China and the U.S. have signed the treaty but not ratified it yet. According to Chinese official stance, Beijing supports CTBT and has submitted it case for the ratification to the national legislature National People's Congress for approval [6]. Previously, Obama Administration favored the ratification, however Republicans mounted opposition for the proposal; therefore, the Senate didn't not approve the ratification. Republicans held the proposal primarily of the apprehension that it may not sustain credible nuclear arsenal without future testing [7]. North Korea has been in recent debates owing to its rounds of nuclear tests in the recent past. Recently, North Korea has agreed to join international efforts to ban nuclear testing however, it has yet to formally sign the treaty [8].

In the South Asian context, two States, Pakistan and India have yet to sign the treaty. Generally, Pakistan-India relations have largely based on action-reaction phenomena linked to the relative threat perception and security dilemma of both states. Pakistan attaches importance to the objective of non-proliferation and nuclear disarmament and has actively participated and worked for various International instruments aimed at peace and security.

Concerning nuclear disarmament, Pakistan proposed several arrangements both at regional and International levels. In 1974 after Indian PNE on the floor of UNGA Pakistan proposed the resolution for the establishment of Nuclear Weapons Free Zone (NWFZ) in South Asia. Again in the spirit of nuclear disarmament, Pakistan proposed for the simultaneous adherence to the NPT and IAEA full scope-safeguards in 1979 by India and Pakistan. Considering strategic stability of the region, in 1987 Pakistan proposed for a bilateral or regional nuclear test-ban treaty and later in October 1998 proposed "*Strategic Restraint Regime*" in South Asia. Pakistan made these efforts at regional level to secure peace and stability. As part of its commitments for nuclear disarmament, Pakistan after its nuclear tests of May 1998 – conducted in response to India's tests – declared moratorium on nuclear testing. Since then this political norm is being observed by the country. Hence, Pakistan is also subscribed to the main obligation of the CTBT.

Beside regional level Pakistan has actively contributed in International forums towards the objective of nonproliferation and disarmament. Particularly concerning the CTBT Pakistan attended the Treaty's negotiations in the CD and also voted in favor of the treaty in UNGA as against to India's stance on the particular shift. Islamabad's

position on the CTBT has been very clear and rational given its security concerns and strategic environment. Therefore, from the very start of the debate Pakistan linked its position on the CTBT with of Indian position that Islamabad will not sign the treaty unless it is signed by New Delhi. Pakistan preserves its stance on the CTBT that is shaped by its national security interest.

With regard to India, it officially supports nuclear disarmament and highlights its initiatives. In 1954, the then Indian Prime Minister Nehru called for having the nuclear test bans, a phase towards abolishing nuclear weapons production. Under this context, India became party to the PTBT – banning all nuclear testing except underground testing. Yet India did not join the fundamental nuclear nonproliferation and disarmament arrangement, the Nuclear Nonproliferation Treaty (NPT). Rather, India tested its first nuclear device in 1974 showed inconsistency between its support to nuclear disarmament and its practical action against the spirit of nuclear disarmament. However, as part of its policies in 1978 the Indian Prime Minister Morarji Desai proposed a ban on nuclear testing in a special session of United Nations General Assembly (UNGA). Later, in 1988, the Indian P.M Rajiv Gandhi presented his Action Plan for nuclear disarmament. In these proposals, New Delhi mainly argued for time-bound nuclear disarmament in general [9].

Citing this record of its initiatives, India highlights its spirited and consistent support for nuclear disarmament. With the background of being disarmament advocates, India actively participated in Conference on Disarmament (CD) negotiations for the CTBT. However, ironically, when it came to formally join the CTBT in 1996, India retreated by putting its reservations over the treaty and still continues to flag them. India rejected submission of its signatures because of following three reasons.

India desires the defined time line for the nuclear disarmament in general. New Delhi has been arguing for such a treaty with a specific time frame that equally involves major nuclear weapon states in nuclear disarmament regardless of their status and positions on the subject. India insists that CTBT should be seen in this context.

Former Indian foreign secretary Shayam Saran further endorsed the idea and conveyed the sense that India will not move forward to sign the CTBT unless the world moves categorically towards Nuclear Disarmament in a credible timeframe [10].

India also opposed the scope of the treaty by calling it more of a nonproliferation and non-comprehensive effort than a nuclear Disarmament arrangement. India affirms that the treaty does not restrict sub critical tests thus combined with computer simulations, older designs can be reformed and new ones can be built. So it actually destroys the basic concept of nuclear disarmament. In view of that then Indian

External Affairs Minister IK Gujral [11] stated that *“It is not a comprehensive treaty as it permits the nuclear weapon states to continue their nuclear weapon research and development activity using non-explosive technologies and it lacks any meaningful commitment to nuclear disarmament”*.

India voiced its concern over the Article XIV of the CTBT that requires hold out States, including India, signatures and ratification for the enforcement of the treaty. In this regard, India registered its protest in order to be excluded as a compulsion for the enforcement of the treaty. India sees this provision as a violation of Vienna Convention on the Law of Treaties, 1969, which does not necessitate any State either to join or become an obligation for the enforcement of any treaty without State’s consent [9].

Under this backdrop, India explains and justifies its abstention from the CTBT. Later in May 1998, India officially announced another round of nuclear tests that led to international condemnation and temporary economic sanctions on the State. Thereafter, India declared unilateral moratorium on nuclear testing.

Reportedly, in late 1998 when Indian political party, Bharatiya Janata Party (BJP) was in government, then Indian PM Vajpayee indicated consideration of signing the CTBT. In UNGA, PM Vajpayee stated [12] that *“India is now engaged in discussions with our key interlocutors on arrange of issues including the CTBT. We are prepared to bring these discussions to a successful conclusion so that the entry into force of the CTBT is not delayed beyond September, 1999”*. Hence, a case was made in favor of signing of the CTBT broadly on following three grounds:

1. In technical terms it was assured that India has a credible nuclear deterrence so its defense would be guaranteed in any way.
2. That was the time when India was under pressure and international condemnation thus to end the political and diplomatic isolation signing the CTBT was also considered.
3. To improve economic conditions by improving bilateral relations with US. Isolation and condemnation badly affected Indian economy since some of its companies were blacklisted.

Apparently, India’s consideration of signing the CTBT as bargaining chip for improving its economic and diplomatic conditions positively worked for India. Although the negotiations between Indian and US officials (Jaswant Singh and Strobe Talbot) paved economic sanctions on India partially, thereafter, U.S. made a concession by delisting some companies of India. Nonetheless, domestic resistance posed largely by the Congress and other opposition groups in public and the U.S. failure to ratify the treaty in 1999 opportunely at part of India, prevented its signature on the CTBT.

As against to the U.S. expectations and Treaty’s requirement, India put its intent of not signing the CTBT very clearly back in June 2008. It was reported that Indian Prime Minister Manmohan Singh signaled inclination of countries to grant nuclear material and technologies to New Delhi for civilian use regardless of being non NPT and CTBT member state [13]. Thus, without undertaking prerequisite legal obligations for nuclear cooperation, India maintained assurances to benefit from the geo-political dynamics of the time.

Since the debate is about testing, thus discussing the contentious Indo-US nuclear deal would be significant that how this nuclear deal view possibilities Indian testing in future. Does nuclear agreement between the two, put legal restrictions on India to withdraw the cooperation, if India conducts nuclear weapons test in future. In this regard, some inconsistencies exist between U.S. domestic law and *“the Agreement for Cooperation between the Government of the United States of America and the Government of India Concerning Peaceful Uses of Nuclear Energy”*, also known as 123 agreements. For instance, U.S. Atomic Energy Act calls for an end to nuclear cooperation with non-nuclear weapon states that conduct nuclear tests whereas, official text of the 123 agreement, released by the U.S State department does not contain the word *“test”* nor there is an automatic termination of cooperation for any act of violation. Indeed, Article 14 of the bilateral agreement text, concerning termination or cession of cooperation is silent about the scenario what if India conducts nuclear tests [14]. Thus, in the absence of clear reference to the word *“test”*, ambiguity provides India as a leverage in this regard.

However, one may argue about possible repercussions in case India resumes nuclear testing. In such a scenario, would United States call for the termination of the agreement or would it deteriorate Indo-US bilateral relations? While assuring India’s sovereign right to conduct nuclear testing, Ex-Indian PM Manmohan Singh back in August 2007 stated [15] that *“The Indo-US civilian deal does not impinge on the country’s sovereignty or to its right future nuclear test”*. Further, then Indian External Affairs Minister, Paranab Mukherjee in October 2008 categorically stated [16] that *“India has the right to test while others have the right to react”*. Nevertheless, such official accounts, provide an insight of India’s approach towards future nuclear testing.

Furthermore, the former Indian representative at Conference on Disarmament, Arundhati Ghose, who fought hard in defending Indian case on the CTBT, observed the likelihood of repercussion and stated [17] *“if the laws of some countries call for the imposition of sanctions or cessation of cooperation in the event if India tests, it is extremely unlikely that such actions would be taken by countries which are looking to India in meeting exigencies of the current economic meltdown”*.

It is evident through above lines that nuclear testing has a special place in Indian nuclear discourse and perhaps any threat or likelihood of repercussions seems unlikely to dissuade India from future testing.

Nevertheless, beside Indian intensions, its decision on CTBT would also be shaped by associated concerns. Since long, largely two schools of thoughts are prevailing in India on the matter of CTBT, one the Moderates and other is of Hardliners [18]. The **pro-CTBT** school having relative more moderate view maintains that India should sign the CTBT for the following two reasons:

1. Political reasons; pro-CTBT group considers signing the CTBT as an opportunity for Indian International standing by improving its relations with the U.S.
2. On technical basis, moderators argue that India has sufficient data to conduct sub-critical tests and simulations to maintain and check the reliability of its nuclear arsenal.

Whereas, the **hardliners** oppose India's signature on the CTBT, as they doubted that all tests conducted were enough and reliable for future computer simulations. As a result, Indian signature would endanger security by limiting its deterrence and advancement in this regard. They further argue that like many other countries India is already observing moratorium on nuclear testing so it does not need to sign the treaty as it will cost the country heavily, indeed CTBT would freeze their nuclear weapons capability from further advancement. The present government keeps their previous position of not signing the CTBT unless their reservations are considered. Therefore, India has not given any clear signal to sign CTBT unconditionally. Further the issue 'nuclear testing' in India has remained controversial since the very first time India tested its nuclear device in 1974. By that time, the yield of the test remained divisive as some exaggerated it up to 20 kilotons (kt). However, according to official sources, yield of the bomb was reported to be 12kt [19]. Same contradictory responses surfaced for the second test of 1998, to some tests were successful while some disagreed however, notion behind this divergent opinions, could be to keep India's future options open to test.

India defended its nuclear test of 1974 by calling it 'PNE-purely for peaceful purposes'. However, Raja Raman, former director of India's Nuclear Program, speaking to the *Press Trust of India* clearly stated [20] that "*the Pokhran test was a bomb, I can tell you now... An explosion is an explosion, a gun is a gun, whether you shoot at someone or shoot at the ground... I just want to make clear that the test was not all that peaceful*".

Under this backdrop, it is argued though India project itself as an advocate of nuclear disarmament but hold strong feet to resist to entering the treaty under the cover of its position on general disarmament. However, it raises some

questions as to why after such an active support, India is not signing the CTBT.

Beside its reservations, perhaps signing at this juncture, would not favor its ambitious future plans. For that, India is delaying to attain maximum time to build and test its planned new types/designs nuclear weapons this may include; miniaturization and up-gradation of weapons, thermo-nuclear devices and plans for submarine launched nuclear weapons. Since India is believed to be actively working for the realization of its ambitious plans.

Therefore, these new designs once built would require testing, which can be stalled by signing the treaty. So will India compromise its heavily invested and ambitious nuclear plans at cost of signing the CTBT? Certainly not, Indian External Affairs Minister S M Krishna strengthened the conjecture by stating [21] that "*US president Barack Obama will understand New Delhi 'special status' and compulsion for not signing the CTBT*". During Obama's tenure neither U.S. nor India made any tangible progress towards ratifying and signing the treaty, respectively. In India, during Modi's tenure the status-quo with regard to signing the CTBT is still maintained.

Internationally, Indo-U.S. nuclear deal has augmented Indian stature and India's perception to influence the world. Indeed, aforementioned statements considerably illustrate how India's diplomatic and political clout is employed to benefit from the international dynamics while avoiding legal restrictions on its nuclear program. Beside Indo-U.S. nuclear deal, India's growing nuclear advancements; including development and expansion of unsafeguarded uranium enrichment facility, Rare Materials Plant (RMP) Rattehali, cannot be ignored in the context of CTBT, as all these underway developments would require testing at final stage [22]. Hence, the silence from the current leadership in India on CTBT issue signifies a range of nuclear weapons development projects in India is probably underway, once developed, may require testing.

6. Conclusion

As to general perception, CTBT may not in the long term achieve its very stated objective of disarmament in general. Some treaties, including the NPT are being criticized for their ineffective implementation. Hence, future of the CTBT is anticipated to be the same. Unquestionably, all States are pursuing their national interests, either by supporting or by differing on International arrangements to safeguard their national interests. However, to non-proliferation advocates, whether such arrangements meet success or not, existence of treaties is nevertheless significant by not only making certain norms obligatory on States but also by defining a threshold.

After decades of international governmental and public efforts, the CTBT, agreed upon by all recognized nuclear-armed States is in place, yet to be ratified and implemented

by major nuclear weapons States including the U.S. in general and India in particular. The treaty is generally regarded as a benchmark for nuclear nonproliferation mechanism as it contains a comprehensive and effective implementation and verification apparatus. All nuclear-armed states are already observing informal unilateral test ban moratoria for years with an exception of North Korea that has conducted six nuclear tests starting from year 2006 to the latest in 2017.

States, currently outside the ambit of the treaty are likely to further delay the signing and ratification of the treaty in foreseeable future, considering their respective strategic calculation and environment. As new design and type of weapons will necessitate nuclear testing that cannot be carried out after becoming party to the CTBT. Thus, States are likely to continue with observing the unilateral moratoriums while avoiding any legal bindings on their nuclear weapons program developments. Taken together, owing to strategic dimensions, major hold out States are likely to continue the status quo thus any progress with regard to CTBT implementation seems less likely in the foreseeable future.

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