

CYG

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The views expressed herein are those of the authors, and do not necessarily reflect the views of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), the Russian Ministry of Defense, or National Research Nuclear University/Moscow Engineering Physics Institute. Likewise, the views expressed by the authors do not necessarily reflect the views of the European Union, which has generously sponsored the participation in the conference of several CTBTO Youth Group (CYG) members. The CYG's aim is to revitalize the discussion around the CTBT among decision-makers, academia, students, expert society and media. By raising awareness of the importance of the nuclear test-ban, the CYG hopes to help develop the next generation's capacity to address the pressing foreign, defence, and security policy challenges of our time.

Foreword

The papers contained in this compilation are the result of a CTBTO Youth Group project aimed at enabling knowledge transfer in the field of nuclear non-proliferation and disarmament.

Youth Group members from seven of the remaining eight “Annex 2 States” whose ratification is needed for the CTBT to enter into force worked together over a period of three months in the development of the papers. During the same period, Youth Group members from the Russian Federation worked together on a paper sharing their perspective on Article XIV of the Treaty, which relates to entry into force.

For the project, Youth Group members from the Annex 2 States:

- Conducted research and wrote about the history, demographics, security policies and decision making authorities of an Annex 2 country which was not their own;
- Worked on teams consisting of nationals of their own countries as well as nationals of other Annex 2 countries;
- Were requested to submit their papers to peers and experts for review and to incorporate the comments provided by reviewers.

The paper on Annex 2 countries in Asia was written by nationals of the Islamic Republic of Iran, Israel and the United States of America. This paper was reviewed by peers and experts from China, India and Pakistan.

The paper on the Middle East was written by nationals of China and India. This paper was reviewed by peers and experts from Egypt, the Islamic Republic of Iran and Israel.

The paper on the United States of America was written by nationals of Egypt and Pakistan. This paper was reviewed by peers and experts from the United States of America.

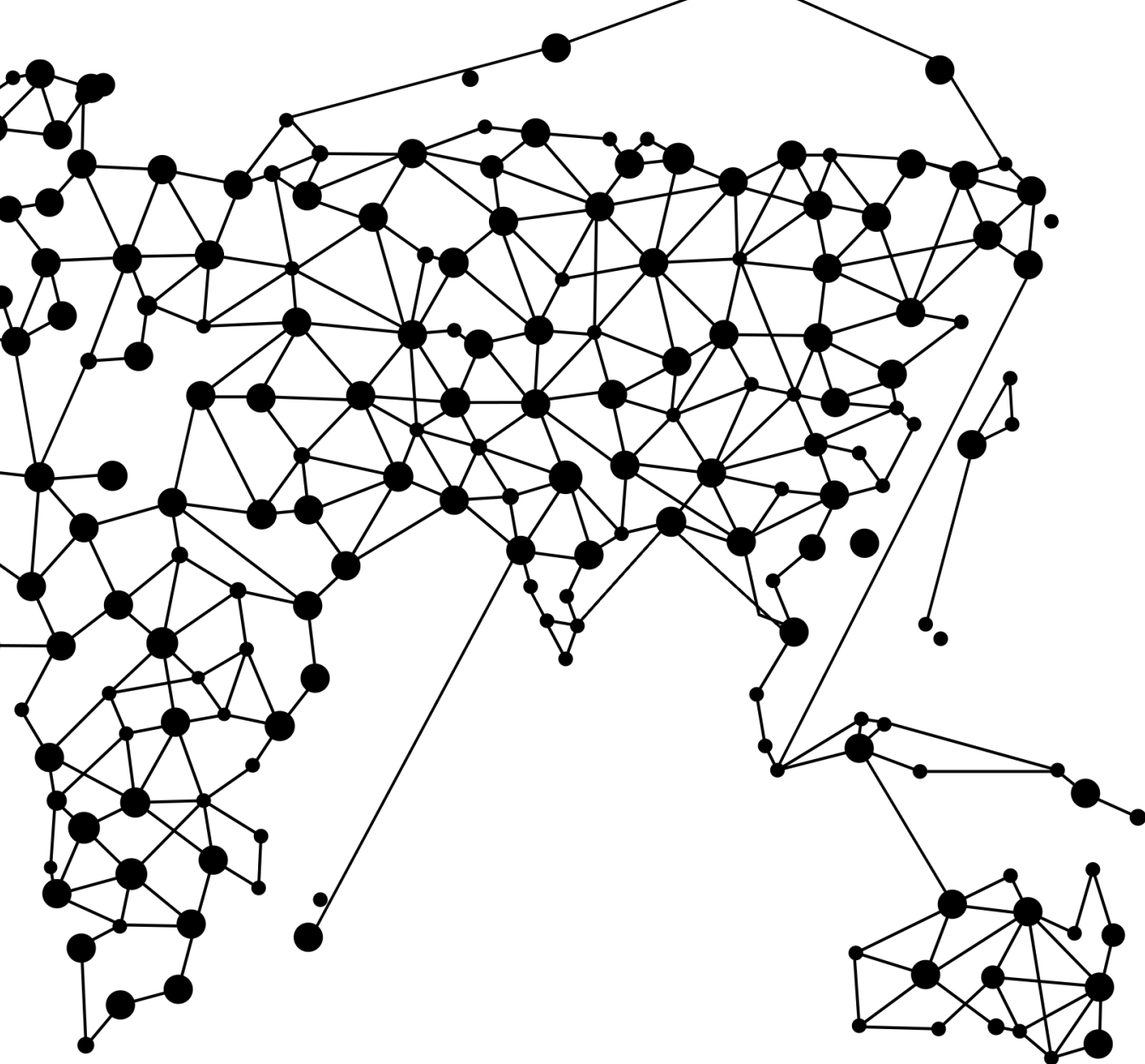
The challenges faced were numerous. Challenges resulted from *inter alia* working at a distance and under different time zones, competing priorities and time constraints, differences in cultures, educational background, skills – as well as differences in levels of commitment and personality traits. The final papers do not reflect the comments of all reviewers and are not intended as authoritative literature on the subject matter addressed.

The actual achievement of each paper is a goal in itself and serves to provide a glimpse into what multilateral diplomacy work can look and feel like. Each paper is the product of compromise.

It is our hope that with this project the participating CTBTO Youth Group members were able to learn about other Annex 2 countries and the importance of working together with respect and appreciation for what each person (and country) has to offer. Moreover, it is our hope that through this project the participating CTBTO Youth Group members were able to establish lasting friendships that will guide them in their careers and in the pursuit of a peaceful and secure world.

Special thanks to the European Union for its generous extra-budgetary contribution which made possible the participation of a number of CYG members.

CTBTO YOUTH GROUP SUPPORT TEAM



Prospects for CTBT Ratification in 2017: China, India, and Pakistan

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1. Executive Summary

The re-emergence of nuclear testing by the Democratic People's Republic of Korea (DPRK) has left the world, and more specifically its neighbors, with much to think about. The Comprehensive Test Ban Treaty (CTBT), opened for signature in 1996, continues to be a beacon for scientific and technical knowledge used to scrutinise each evolving nuclear test, providing member states with information far beyond its original intended scope and reach. However, due to eight remaining Annex II countries that have yet to ratify the treaty, the capacity to enforce the full letter of the deal remains in limbo. Given the heightened global public discourse surrounding nuclear testing, the physical and ontological security dimensions of each of these eight countries are critical to providing an understanding of the future of the CTBT. As the treaty's supporting organization grapples with attempting to leverage each moment of crisis into a moment of opportunity to educate the global public on the importance of having a legally binding mechanism to deal with nuclear testing, the power and permeability of that message differs depending on each country's historic and present circumstances. This paper will give a historical background on each country's relationship with nuclear testing before assessing current geopolitical challenges, decision-making processes, and influencing factors. To conclude, prospects for CTBT ratification will be addressed.

2. Historical Background

Introduction

As it currently stands, China has signed the Comprehensive Test Ban Treaty (CTBT) but has not ratified the treaty, adhering instead to a unilateral moratorium on testing put in place in 1996 after its last nuclear test. On the other hand, India and Pakistan have neither signed nor ratified the CTBT. Both countries have declared unilateral moratoria on testing since their last tests in 1998, and all subsequent attempts to sign a bilateral moratorium or multilateral agreement such as the CTBT has been met with overwhelming obstacles.

To better understand this current situation and the modern challenges to CTBT ratification in South Asia and China, it is necessary to view the situation against a broader historical backdrop. Historical events, both regional and international, construct an intricate and often tense stage upon which modern actors operate. Keeping in mind the continued relevance of history as a source of national pride and regional distrust, we now briefly analyse the historical background of South Asia and China through political, economic, and social lenses.

India

Turning first to India, a spectrum of historical events coupled with political, social, and economic developments have led to the state's current complicated relationship with the CTBT. India first tested a nuclear weapon in 1974, a decade after signing and ratifying the Partial Test Ban Treaty.¹ These tests, conducted in the northwestern state of Rajasthan, drew sharp rebuke from the international community despite being framed as a "peaceful nuclear explosion."²

¹ <http://www.nti.org/learn/countries/india/nuclear/>

² It is with some irony that the United States condemned this test, as the concept of a "peaceful nuclear explosion"

² It is with some irony that the United States condemned this test, as the concept of a "peaceful nuclear explosion" was first introduced by the United States and the Soviet Union. See: <https://www.ctbto.org/nuclear-testing/history-of-nuclear-testing/peaceful-nuclear-explosions/>

When the CTBT opened for negotiations in 1993, India was among the few states that had tested a nuclear weapon and thus entered CTBT negotiations as a key player, central to the future success of the test ban. However, being a longtime proponent of nuclear disarmament initiatives, India took issue with the CTBT due to its lack of time-bound dimensions, regional security concerns, and the Article XIV entry into force provision.³ Specifically, India advocated for the Treaty to enter into force only after all Parties committed to attaining total disarmament in ten years.⁴ After this position was rejected, India withdrew its facilities from the International Monitoring System. In its subsequent criticism of the treaty, India maintained that each country possessed a right to withhold consent to a treaty, and as Article XIV of the CTBT was introduced after India announced its decision, India argued that it was essentially being coerced into accepting a treaty contrary to its national interest.⁵

Political, social, and economic events following that initial breakdown in negotiations resulted, further complicating the historical backdrop of India's current position. In terms of domestic politics, India refused to sign the CTBT in the midst of the run-up to the Indian general elections of 1996, a time when domestic opinion mattered hugely. When India did choose to test nuclear weapons again in 1998, the decision came as the Bharatiya Janata Party (BJP) sought avenues to secure their parliamentary majority in the future. A show of military strength was thought to boost the nationalist party's popularity, as

the tests were met with general praise and national pride, and to cement their relations with parliamentary allies.⁶

While foreign politicians strongly rejected the testing, international politics nevertheless played a strong role in the decision to test in the first place.⁷ Professor Lowell Dittmer of UC Berkeley notes that "...the implosion of the Soviet Union in 1991 and decline of salience, for the time being, of Afghanistan in world affairs" were major contributing factors to India's decision regarding nuclear testing.⁸ As attention shifted away from the region, India sought to reestablish itself as a major player in world politics; testing was one such avenue for this reassertion.⁹ This desire, coupled with the growing instability of the Gulf War and the concerns of India's scientific and political community (fearing that if India delayed nuclear testing, it might be forced to sign a test ban treaty without having had the chance to gain an understanding of the nuclear option),¹⁰ set the stage in domestic and international politics for India's continued failure to sign and ratify the CTBT.

Historically, economic factors shaping India's relation to the CTBT are complicated. Each time that India has conducted a nuclear test explosion, it has suffered international

³ Ruhee Neog, London School of Economics. <https://southasianvoices.org/ctbt-at-20-why-india-wont-sign-the-treaty/>

⁴ Comprehensive Test Ban Treaty Organization Preparatory Commission, 1994-96: Entry into Force Formula, available at <https://www.ctbto.org/the-treaty/1993-1996-treaty-negotiations/1994-96-entry-into-force-formula/>

⁵ Comprehensive Test Ban Treaty Organization Preparatory Commission, 1994-96: Entry into Force Formula, available at <https://www.ctbto.org/the-treaty/1993-1996-treaty-negotiations/1994-96-entry-into-force-formula/>

⁶ <http://www.nytimes.com/1998/05/12/world/india-sets-3-nuclear-blasts-defying-a-worldwide-ban-tests-bring-a-sharp-outcry.html?mcubz=3>

⁷ For insight into the international reactions: Britain voiced its "dismay"; Germany called the test "a slap in the face" for the 149 countries that had signed the CTBT; the United States held that it was "deeply disappointed."

⁸ *South Asia's Nuclear Security Dilemma*: Lowell Dittmer

⁹ During the Cold War, India's desire to establish itself as a great power as part of the Non-Aligned Movement had led to military buildup and weaponization from Soviets under Nehru.

¹⁰ Insight from CYG member Aditi Malhotra. "Owing to the perceived pressure from external powers (especially western countries) to sign the CTBT, there was sentiment within India that if India delayed a nuclear test or if India was forced to sign the treaty, then its option would be forever closed. The fact of 'western pressure' can be gauged by the fact that Indian news reporting on nuclear issues majorly focused on CTBT, America's non-proliferation issues and NPT extension." For more see: Karsten Frey, *India's Nuclear Bomb and National Security* (New York: Routledge, 2007), 43.

economic sanctions as a result. However, nuclear expenditures as a larger part of defense expenditures have historically had a positive correlation to economic growth in India.¹¹ More generally, while the twentieth century was marked by economic growth in India, this growth was often fragile, with significantly high variance.¹² Yet this sometimes-fragile growth has been linked with the trend of globalization, as demonstrated through the economic reform policy known as Liberalization, Privatization and Globalization. The history of India's economy as it relates to the other Annex 2 states is thus tightly interwoven.

Finally, viewing India through the lens of social and geopolitical history, it is essential to bear in mind that India only gained independence in 1947, when it was partitioned into two countries: India and Pakistan. As a result of this partition, India's regional proximity to Pakistan and its territorial dispute over Kashmir bear on any question of national security, nuclear or otherwise. Adding to regional insecurity, India operates under the shadow of a long history of colonialism;¹³ the nature of this history has resulted in ontological concerns over threats to its "strategic autonomy" as an independent state that come into play when Western powers exert pressure on Indian representatives during treaty negotiations.¹⁴ Stepping back and viewing India's current societal relation to nuclear weapons in the context of regional instability and British colonial past, it is not surprising that nuclear weapons would evoke feelings of

nationalism and national pride throughout the 1900s and into the 2000s.

China

China exploded its first nuclear device in 1964: two years after defeating India in the 1962 Sino-Indian war. However, the move to a test was less related to any policy towards India than it was responsive to the "imperialist policy" of nuclear blackmail from the United States; this charge came in the shadow of past United States efforts to deter China from entering the Korean War.¹⁵ In an official statement from Peking, the government announced:

"The atom bomb is a paper tiger. This famous saying by Chairman Mao Tse-tung is known to all...China is developing nuclear weapons not because we believe in the omnipotence of nuclear weapons and that China plans to use nuclear weapons. The truth is exactly to the contrary. In developing nuclear weapons. China's aim is to break the nuclear monopoly of the nuclear powers and to eliminate nuclear weapons."¹⁶

The social and political history of China in context to the treaty must also be considered. The 1960s marked the beginning of China's Cultural Revolution: a sociopolitical movement to "purge" traditional and capitalistic elements from Chinese society. Led by Mao Zedong, the Cultural Revolution effectively targeted education institutions as vestiges of these negative elements, including scientific programs.¹⁷ This may have resulted in a slight slowdown in the strategic weapons program,

¹¹ See Robert Looney study, *Defense Expenditures and Economic Performance in South Asia: Tests of Causality and Independence*, Conflict Management and Peace Science 11, no. 2 (Spring 1991): 37-68.

¹²

<https://www.imf.org/external/pubs/ft/wp/2004/wp0443.pdf>

¹³ See Nicholas Dirks. *Castes of Mind: Colonialism and the Making of Modern India*. 2002.

¹⁴ Institute for Defence Studies and Analysis. *India's 'Strategic Autonomy' and the Club Model of Global Governance: Why the Indian BRICS Engagement Warrants a Less Ambiguous Foreign Policy Doctrine*.

http://www.idsa.in/strategicanalysis/39_1/IndiasStrategicAutonomyandtheClubModel

¹⁵ Statement by Peking on Nuclear Test. October 17, 1964. Archives- New York Times. Available from <http://www.nytimes.com/1964/10/17/statement-by-peking-on-nuclear-test.html?mcubz=3>; See also <http://digitalarchive.wilsoncenter.org/collection/188/china-and-the-korean-war>

¹⁶ Id.

¹⁷ See: Yiching Wu, *The Cultural Revolution at the Margins*. Harvard University Press, 2014.

although scientific breakthroughs continued throughout the decade despite domestic turmoil caused by the revolution.¹⁸

Internationally, China and the Soviet Union formally broke their relations in 1963, one year before the first nuclear test in Peking. This Sino-Soviet split bore strong ramifications for China's nuclear policy; as late as 1958, China had sent uranium to the Soviet Union in exchange for two R-2 ballistic missiles, but by 1962, nuclear development assistance from the Soviets had ended.¹⁹ Diplomatically, Chinese officials had found common ground with the Soviets in the goal of "creating a tense situation for the Americans,"²⁰ but by October 1962, a CIA report stated that "the Chinese communists have told Moscow in strong language that [Beijing] will speak for itself when it comes to renouncing the right to nuclear arms."²¹

While the Cultural Revolution slowed Chinese economic production and caused a dip in per capita GDP growth, the overall trend in China since 1952 has been an upwards surge of economic growth.²² This favorable economic climate allowed for the Chinese to develop their own nuclear weapons program despite refusal from the Soviet Union to provide a bomb.

Collectively, these social, economic and political developments led to Chinese nuclear

testing and colored its perception of the proposed test ban treaty. By the time negotiations for the CTBT commenced in 1993, it had conducted forty-five nuclear tests and was the last among the five official nuclear weapon states (P5) to stop testing.²³ But despite this background of nuclear events—or perhaps because of it—China took on an active role within the negotiations.²⁴ It was China that proposed the controversial provision conditioning entry into force upon the ratification by all Conference of Disarmament members and all States known by the IAEA to possess nuclear or research reactors.²⁵ China endorsed the draft, called for an early entry into force, and signed the treaty on the first day that it opened for signature.²⁶ And while China has still yet to ratify the CTBT, its hesitancy to do so has largely been attributed to the fact that the United States has not ratified; this in keeping with the history of Chinese nuclear policy forming in reaction to the United States, as described above.²⁷

¹⁸ Chengzhi Li, Dehui Zhang, Danian Hu. *Making Breakthroughs in the Turbulent Decade: China's Space Technology during the Cultural Revolution*, Endeavour Journal. 2017. Available from: <http://www.sciencedirect.com/science/article/pii/S0160932717300686>

¹⁹ <https://www.wilsoncenter.org/publication/sharing-the-bomb-among-friends-the-dilemmas-sino-soviet-strategic-cooperation>

²⁰ See Chen Yi Statement, 5 June 1958.

<https://www.wilsoncenter.org/publication/sharing-the-bomb-among-friends-the-dilemmas-sino-soviet-strategic-cooperation>

²¹ CIA. (Declassified in Part): The President's Intelligence Checklist, 12 October 1962. Available from https://www.cia.gov/library/readingroom/docs/DOC_0005995977.pdf

²² <https://www.weforum.org/agenda/2015/07/brief-history-of-china-economic-growth/> (Figure 1).

²³ Note: The same number of tests as the UK. See: http://www.europeanleadershipnetwork.org/the-entry-into-force-of-the-ctbt-the-chinese-perspective_1790.html

²⁴ Yunhua Zou *China and the CTBT Negotiations*, Stanford Center for International Security and Cooperation: "During the negotiations, China presented many working papers, non-papers, and suggestions regarding the CTBT draft text (including a number of revisions), and dealt with a series of critical issues in the Preamble, Basic Obligations, Organization, Verification, and Entry into Force sections of the treaty. The Chinese delegation played an active role at the conference table, and contributed positively to the weekly P5 consultations that ran in parallel with the CTBT talks."

²⁵ Comprehensive Test Ban Treaty Organization Preparatory Commission, 1994-96: Entry into Force Formula, available at <https://www.ctbto.org/the-treaty/1993-1996-treaty-negotiations/1994-96-entry-into-force-formula/>

²⁶ Permanent Mission of the People's Republic of China to the United Nations and other International Organizations in Vienna. *China's Position on the CTBT*. Available from: <http://www.fmprc.gov.cn/ce/cgvienna/eng/dbtyw/cjyjk/CTBT/t127376.htm>

²⁷ Mark Fitzpatrick. *Why China Will Wait on Nuclear Test Ban Ratification*. 28 October 2013. Available from <http://www.iiss.org/en/politics%20and%20strategy/blogse-ctions/2013-98d0/october-5e39/test-ban-china-162e>

Pakistan

Pakistan's first subcritical tests were carried out in 1983, and nuclear testing continued in Pakistan until the Lahore Summit in 1999.²⁸ Pakistan's nuclear testing was strongly motivated by India's 1974 test and was made possible through development support by China, resulting in a regional nuclear triangle.²⁹

Political events, both domestic and international, shape the historical background from which Pakistan currently approaches the CTBT. In the years between the first test and the Lahore Summit—from 1983 to 1999—Pakistan was governed by seven different political administrations, reflecting continued instability. In a regional context, political and military developments with India have long influenced Pakistan's position regarding nuclear weapons: Pakistan's loss of East Pakistan during the 1971 Indo-Pakistan war led to the realization of India's conventional military strength and influenced the decision to develop nuclear weapons. The resulting national humiliation from this loss served as a major factor in the administration's decision to initiate the program. Adding to the humiliation, the outbreak of the Kargil War in 1999 flamed the Kashmir dispute between both countries and marked a departure from budding nonproliferation efforts such as the Lahore Declaration.³⁰

Through the years, Pakistan has been subjected to strict export controls from western countries, resulting in a slower nuclear infrastructure growth than might have otherwise occurred.³¹ However, when its domestic economy has faltered, China has assumed a vital role in the country's development of a nuclear program: for

example, assisting with its plutonium production reactor and supplying it with M-11 missiles.³² But despite this foreign assistance, rather than boosting Pakistan's economy, the testing of nuclear weapons and international condemnation that followed only contributed to the Pakistan Debt Crisis of 1998.³³

Nuclear weapons have generally been well received in Pakistani society, though sparse opposition voices exist,³⁴ cautioning against their presence and echoing international sentiment.³⁵ Both active and retired military leaders in Pakistan, whose voices carry great weight in society, have generally supported the tactical weapons program as a necessary counter to India's limited war doctrine and a vital deterrent option.³⁶ Some academics have even gone beyond this official position and view nuclear weapons as a viable weapon of war, rather than simply a deterrent necessity.³⁷ However, there have been arguments from both retired military officials and academics regarding the dangers and instability of nuclear weapons.³⁸

Taking these historical factors into account, while Pakistan participated in negotiations and endorsed the draft treaty in 1996, it has neither signed nor ratified the CTBT.³⁹ Regional insecurity and concerns with India continue to

²⁸ <http://www.nti.org/learn/countries/pakistan/nuclear/>

²⁹ <http://www.nti.org/analysis/articles/china-pakistan-nuclear-deal-realpolitique-fait-accompl-1/>; Andrew Small, *The China-Pakistan Axis: Asia's New Geopolitics*. Oxford University Press: 2015. Pg 34-62;

<http://nsarchive2.gwu.edu/NSAEBB/NSAEBB6/>

³⁰ <http://www.nti.org/learn/treaties-and-regimes/lahore-declaration/>

³¹ <https://fas.org/nuke/guide/pakistan/nuke/>

³² See pg. 18 of the Department of Defense 2001 report <https://fas.org/irp/threat/prolif00.pdf>; Also See:

<http://www.nti.org/analysis/articles/china-pakistan-nuclear-deal-realpolitique-fait-accompl-1/>

³³ <https://dro.deakin.edu.au/eserv/DU:30061983/anjum-economeffects-2012A.pdf>

³⁴ See: Biography of Perez Hoodbhoy. Bulletin of the Atomic Scientists. <http://thebulletin.org/bio/pervez-hoodbhoy>

³⁵ Moonish Ahmar, *The CTBT Debate in Pakistan*. University of Karachi, 2001.

³⁶ <http://carnegieendowment.org/2016/06/30/pakistan-s-tactical-nuclear-weapons-and-their-impact-on-stability-pub-63911>

³⁷ Id.

³⁸ See statements of retired brigadiers Naeem Ahmad Salik and Feroz Hassan Khan:

<http://carnegieendowment.org/2016/06/30/pakistan-s-tactical-nuclear-weapons-and-their-impact-on-stability-pub-63911>

³⁹ <https://www.ctbto.org/the-treaty/country-profiles/?country=130&cHash=bb58d26ef65b87c6251f4399cf95726a>

influence this position, and as long as India does not reconsider its stance on the CTBT, Pakistan is unlikely to take the first step. Furthermore, history at an international level has given Pakistan reason to be skeptical of the United States as it advocates for their ratification of the treaty while failing to ratify themselves.⁴⁰

3. Demographics

China, India, and Pakistan together account for 39% of the world's population and are, respectively, the first, second, and sixth largest countries in the world, according to the latest estimates⁴¹. Hence, the importance of the Comprehensive Nuclear Test Ban Treaty (CTBT) to enter into force is as dire as ever.

China

The People's Republic of China is currently the world's most populous country with 1.41 billion people, about a fifth of the world's population⁴². Historically, China has always held the largest population, even as far back as the nation's formation in 1949. Nearly 100 cities each have one million or more inhabitants and are situated mostly on the eastern half of the country. The western half of China has less than 10% of the country's population⁴³. Hence, China is left with questions on how to deal with density and urbanization. Opportunities in large urban cities have begun attracting workers, mostly rural, to the eastern regions, resulting in the world's most extensive internal migration flows⁴⁴.

The world's largest population comes with many challenges and China has a long history of addressing these issues. As a response and regulation tool, China is famously known for enacting the one-child policy in 1979, the boldest family planning policy ever undertaken in the modern world. Whether this policy had a substantial and measureable effect on China's population growth is still being debated.

Regardless of the one-child policy's effectiveness, China still has concerning demographic statistics. At birth, China's sex ratio of 1.15 males to females, the highest in the world second only to Lichtenstein⁴⁵; by comparison, the world average stands at 1.05 males to females. The median age of the Chinese population is 37 years old, well above the world's median age of 30⁴⁶. With just over 40% of the population aged 25-49 and a projected annual growth rate of less than half a percent through 2028 before becoming negative, it will be increasingly apparent that China will have an aging population requiring financial assistance from a shrinking young population. Surprisingly, as the world's population is expected to grow at an annualised rate of 0.87% in the next 25 years, China's population is projected to grow at an annualised rate of .024% in the same timeframe⁴⁷. In addition to having the world's largest population, China also has the world's largest military with more than 2 million active military personnel⁴⁸.

According to available data, the Chinese are more concerned than most about nuclear proliferation. A 2014 Pew study placed the Chinese as second most likely after the Russians among P5 publics to consider nuclear proliferation the greatest danger facing the

⁴⁰ Id., Footnote 31.

⁴¹ United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision, custom data acquired via website.

⁴² Ibid, 1

⁴³ Smith, Richard J., and Richard Louis Edmonds. "China." World Book Advanced, World Book, 2017, www.worldbookonline.com.ccsf.idm.oclc.org/advanced/article?id=ar111400.

⁴⁴ <http://www.ilo.org/beijing/areas-of-work/labour-migration/lang-en/index.htm>

⁴⁵ <https://www.cia.gov/library/publications/the-world-factbook/fields/2018.html#ch>

⁴⁶ https://online-culturegrams.com.ccsf.idm.oclc.org/world/world_popup_infographic.php?scountryname=China

⁴⁷ Ibid, 1

⁴⁸ Edmonds, Richard Louis, and Richard J. Smith. "China." World Book Advanced, World Book, 2017, www.worldbookonline.com.ccsf.idm.oclc.org/advanced/article?id=ar111400

world today: 26% of Chinese identified this as the top threat from a list of five options, second only to environmental concerns (the top choice of one third of Chinese).⁴⁹

When it comes to specific cases of nuclear proliferation, however, the Chinese appear *less* concerned than most publics. In 2012, 54% of Chinese told pollsters they oppose Iran's acquisition of nuclear weapons (by far the lowest figure among P5+1 states); a full quarter said they supported Iran's nuclear weapons ambitions. Chinese opponents of Iran's acquisition of nuclear weapons were also the least supportive of tougher economic sanctions to foil it, as well as the least supportive after Russia of possible military action to prevent it.⁵⁰

While the Chinese public has little desire for conflict with the United States, public opinion is drifting in a direction that will soon force the public to confront China's nuclear-weapons status in any discussion of the country's geopolitical future. According to data from Pew, 45% of Chinese now consider US power and influence a "major threat" to China: only 29% of Chinese believe the US will permit China's rise, and a full 80% express concern about US military strength and/or economic power. Closer to home, 59% of Chinese are concerned that territorial conflicts with neighbouring states, including nuclear-armed India, could lead to an open military conflict.⁵¹ As such, if China finds the US taking assertive action to contain it, and the two countries' strategic interests diverge more sharply, China's nuclear status will inevitably feature more prominently in discussions on how to confront this nuclear hegemon.

India

India is the second most populous in the world with a population of 1.34 billion people. However, by 2024, India is expected to

overtake China as the world's most populous nation. By 2040, India is expected to be home to 1.61 billion inhabitants, 20% more people than it currently has⁵². Even its most populous state, Uttar Pradesh, is home to over 200 million people⁵³, and is more populous than the world's fifth largest country, Pakistan.

India has a relatively young population with 70% of the country 39 years old or younger⁵⁴ with an average age of 29 years old⁵⁵. Having the second largest population, and soon-to-be the first largest, could be a major asset to its growth or a debilitating financial burden. India is thus tasked with the challenge of managing not only the world's largest population, but a young, thriving, and able population hungry for opportunity. A push for education and job training will be necessary for a successful cultivation of its working base.

The Indian public perception on nuclear issues are limited as the public focuses more on domestic issues such as corruption or price rises⁵⁶. However, nuclear is not completely invisible to the public, especially nuclear energy. Currently, nuclear energy provides less than 3 percent of electricity⁵⁷, but India's goal is to provide 25% of electricity from nuclear power by 2050⁵⁸. With higher energy demand and an emphasis on de-carbonization, India will have to address concerns of public safety and the environment, especially for those living near nuclear stations.

⁵² Ibid, 1

⁵³ World Bank. 2016. Uttar Pradesh - Indicators at a glance. India state briefs. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/925341468185379316/Uttar-Pradesh-Indicators-at-a-glance>

⁵⁴ Ibid, 1

⁵⁵

<http://money.cnn.com/2016/04/08/news/economy/india-population-skills-gap-education/index.html>

⁵⁶ Aditi Malhotra, "Assessing Nuclear Attitudes," Stimson Center, Winter 2016,

<https://www.stimson.org/content/assessing-indian-nuclear-attitudes-sav-visiting-fellow-working-paper>

⁵⁷

http://mospiold.nic.in/Mospi_New/upload/Energy_statistcs_2016.pdf

⁵⁸ <http://www.world-nuclear.org/information-library/country-profiles/countries-g-n/india.aspx>

⁴⁹ <http://www.pewglobal.org/2014/10/16/greatest-dangers-in-the-world/>

⁵⁰ <http://www.pewglobal.org/2012/05/18/a-global-no-to-a-nuclear-armed-iran/>

⁵¹ <http://www.pewglobal.org/2016/10/05/2-china-and-the-world/>

Nuclear weapons discourse is limited to the “policy and opinion elite”, a small group of connected, influential people, comprised of economists, military and political officials, and academics, amongst many others⁵⁹. When matters of foreign policy such as nuclear weapons are being discussed, decision-makers often rely on their small group of advisers who are often the policy and opinion elites⁶⁰. The nuclear establishment, especially, is seen as “largely impregnable” leading to an absence of the public voice.

India is a large and diverse nation and so the research on public opinion is not fully comprehensive and fully representative of public opinion. There is a “lack of rigorous and comprehensive studies, polls or surveys addressing Indian public attitudes”⁶¹. With the advent of the internet and better dissemination of information, there are opportunities to better engage and poll the Indian public.

Pakistan

Pakistan has a population of 197 million, and although it pales in comparison to China’s or India’s population, it stands as the world’s sixth largest nation⁶². In contrast to China’s median age of 37, Pakistan’s median age of its population is 23 years old⁶³ with 77% of the population under the age of 40⁶⁴. In addition, Pakistan will experience the most robust population growth of the three countries, they are expected to add more than 80 million people, an increase of 40%, in the next 25 years.

Pakistan has about 650,000 active military members with no reserve military. Of all three countries, Pakistan has the largest active

military members per capita given their smaller population.

Pakistani public opinion stands foursquare behind the country’s own nuclear weapons programme. According to a 2015 Gallup poll, 87% of Pakistanis support building nuclear weapons (59% strongly and 28% to some extent). This figure represents a marginal rise in support for Pakistan’s nuclear arsenal over a quarter of a century, i.e. after Pakistan first tested its nuclear weapons, despite a drop in the proportion expressing a strong preference.⁶⁵ When Pakistan conducted its 1998 test, 70% of the public expressed support for the detonation;⁶⁶ in 2014, 82% of Pakistanis said that nuclear test was the right decision.⁶⁷ Pakistani public opinion does not only support the nuclear weapons programme-its support for that programme has actually grown over the years.

From limited available polling data, the Pakistani public is conflicted on the question of nuclear proliferation. On the one hand, Pakistanis are among the peoples most concerned about nuclear proliferation: 30% identified it as the top international threat from a list of options, among the highest proportions in the world.⁶⁸ On the other hand, a solid 50% of Pakistanis support Iran’s acquisition of nuclear weapons, with only 11% expressing opposition. Whereas most publics expressed overwhelming opposition to Iran’s nuclear ambitions, 57% of Pakistanis consider a nuclear Iran either a minor threat or not a threat at all.⁶⁹ Pakistanis, in other words, are not concerned about nuclear proliferation in countries that they do not regard as a prior threat.

⁵⁹ Ibid, 16

⁶⁰ Ibid, 13

⁶¹ Ibid, 13

⁶² Ibid, 1

⁶³ “Infographic of Pakistan.” CultureGrams Online Edition, ProQuest, 2017, https://online-culturegrams-com.ccsf.idm.oclc.org/world/world_popup_infographic.php?scountryname=Pakistan.

⁶⁴ Ibid, 1

⁶⁵ <http://gallup.com.pk/small-changes-in-public-opinion-regarding-nuclear-weapons-in-pakistan-over-the-past-twenty-four-years/>

⁶⁶ <http://gallup.com.pk/source-globalsecurity-org-2/>

⁶⁷ <http://gallup.com.pk/82-of-pakistanis-think-conducting-the-atomic-blast-was-a-right-decision-12-think-it-was-wrong/>

⁶⁸ <http://www.pewglobal.org/2014/10/16/greatest-dangers-in-the-world/>

⁶⁹ <http://www.pewglobal.org/2012/05/18/a-global-no-to-a-nuclear-armed-iran/>

Looking Forward

Although information on public perceptions are limited and has seemingly led to the conclusion that either the public is unaware or that proper polling is unavailable. With China, India, and Pakistan becoming more globalised, having more exposure to more sources of information, and a push for more education, there is a clear opportunity to target these countries in raising awareness for issues of nuclear weapons, particularly the CTBT. The issue of nuclear weapons is making headlines again with the recent nuclear and missile tests from North Korea.

4. Analyses of Current Geopolitical Challenges

Maritime Disputes: South China Sea and East China Sea

China is grappling with a number of geopolitical challenges that shape its foreign policy objectives, national interests, and role in the international community. One of the most visible is the territorial dispute over the South China Sea, in which Beijing has been engaged with its neighbors, and the United States. As one of the most trafficked bodies of water in the world and one that is thought to be rich in oil and other natural resources, the South China Sea is a highly desirable asset. In recent years, China has sought increasingly to assert ownership over this body of water along with the right to patrol, militarise, and control commerce through it. This posture has created friction with Vietnam, Taiwan, the Philippines, Brunei, and Malaysia, all of whom have asserted claims to this body of water. New developments have imbued the dispute with new salience in recent years including a 2016 International Arbitral Court ruling in favor of the Philippines' claim and Indonesia's 2017 renaming of portion of the South China Sea near its exclusive economic zone.

Ongoing disagreements over the South China Sea issue most recently prevented ASEAN leaders from releasing a consensus statement at the conclusion of their August 2017

summit.⁷⁰ Simultaneously, China's alleged dredging of islands in this disputed area for military use have led to disputes with the United States, which seeks to transport goods and military equipment—and to conduct military patrols—throughout the world's oceans. The irreconcilability of Washington and Beijing's positions can be attributed to a difference in the two countries' interpretations of international maritime law: according to the United States, the law permits it to conduct military patrols inside the exclusive economic zones of other countries, while the Chinese interpretation forbids such activities.⁷¹

At the same time, China has also become embroiled in a territorial dispute with Japan over the Senkaku/Diaoyu islands, which have been owned by private Japanese citizens for more than a century. Conflict has arisen over the overlapping exclusive economic zone both Tokyo and Beijing claim off the coast of these islands. In 2014, then-US President Barack Obama confirmed that the Senkaku/Diaoyu islands fall under the US-Japan Security Treaty, meaning that any military conflict arising between the two countries on that territory could obligate the United States to defend Japan.⁷² With no immediate resolution to either of these conflicts in sight, both the South and East China Seas promises to influence Beijing's security posture—as well as international responses to it—for the foreseeable future.

Taiwan

China's relationship with Taiwan is similarly complex and intractable. Its central tension stems from China's position that there can only be "one China" and that Taiwan will never be an independent state, a perspective that is incompatible with Taiwan's self-identity. The lengths to which China is willing to go to

⁷⁰ <https://www.reuters.com/article/us-asean-philippines/asean-communique-stalls-amid-disagreement-on-south-china-sea-stance-idUSKBN1AL05R>

⁷¹ <https://worldview.stratfor.com/article/great-power-politics-south-china-sea>

⁷² <https://www.cfr.org/interactives/global-conflict-tracker#!/conflict/tensions-in-the-east-china-sea>

enforce this posture were visible in 1995 and 1996: Chinese forces conducted military exercises, including the launch of a series of DF-15 missiles, in the vicinity of the Taiwan Strait in response to Taiwan's increased emphasis on independence.⁷³ Despite some improvement in relations in 2015 following the first meeting between the Chinese and Taiwanese heads of state in seventy years⁷⁴, Beijing has maintained its unwavering stance on this issue. Most recently, China has taken a hard line approach toward Tsai Ing-wen, Taiwan's current president, who was elected over the candidate from the pro-Beijing Nationalist Party.⁷⁵ While Tsai ran on a platform advocating the maintenance of the status quo with China, Beijing sees indications that her government seeks independence, and tensions between the two countries have increased as a result. Under these circumstances, China has sought to reduce tourism to Taiwan, and it has suspended dialogue between the two countries in an effort to further isolate the island and quash any such aspirations on the part of the new administration.⁷⁶ In spite of this dynamic, however, Taiwan relies heavily on China economically, and trade between the two has flourished in recent years. In 2015, China was Taiwan's most important economic partner, and more than twenty trade agreements were concluded between Beijing and Taipei under Taiwan's previous administration.⁷⁷ This economic relationship is particularly significant given Taiwan's relative diplomatic isolation, which increased in June 2017 when Panama

shifted its diplomatic recognition to China for the first time in 100 years.⁷⁸

Taiwan also maintains close trade relations with the United States, although these are arguably less significant than Taipei's defense relationship with Washington.⁷⁹ Although the US broke formal ties with Taiwan in 1979, it has continued to remain one of its only allies and has provided Taiwan with positive security assurances against attack by China under the Taiwan Relations Act. Nevertheless, the US position toward Taiwan is one of ambiguity: as US president, Bill Clinton recognised China's "Three Nos" principle on Taiwan, but in 2015, the United States completed a 1.83 billion arms sale to Taipei.⁸⁰ As the US-Taiwan dynamic has evolved further over the past four decades, it has had significant impacts on relations between China and Taiwan. In 2017, newly-elected US president Donald Trump elicited a strong response from the international community when he took a call from Taiwan's president in what appeared to be a reversal of longstanding US policy. He later expressed, however, that he would consult with President Xi before communicating with Taiwan's leadership in the future. This episode highlights the delicate balance in relations between the three countries; as these dynamics change, they promise to have an ongoing impact on China's threat perception.

Tensions on the Korean Peninsula

Rising tensions on the Korean Peninsula as a result of the DPRK's evolving nuclear program constitute another significant geopolitical challenge facing Beijing. China has a complex relationship with the DPRK. Central to its position is avoiding the prospect of the

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<http://aparc.fsi.stanford.edu/sites/default/files/Scobell.pdf>

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<https://www.theguardian.com/world/2015/nov/07/chinas-xi-jinping-and-taiwans-ma-ying-jeou-shake-hands-in-historic-meeting>

⁷⁵ <http://beta.latimes.com/world/asia/la-fg-taiwan-tsai-approval-2017-story.html>

⁷⁶ <https://www.reuters.com/article/us-china-taiwan/china-says-taiwan-not-a-country-taiwan-says-china-needs-reality-check-idUSKCN1C20YF>

⁷⁷ <https://www.cfr.org/backgrounder/china-taiwan-relations>

⁷⁸ <https://www.usnews.com/news/world/articles/2017-06-12/panama-switches-diplomatic-recognition-from-taiwan-to-china>

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https://www.uscc.gov/sites/default/files/Annual_Report/Chapters/Chapter%203%2C%20Section%202%20-%20China%20and%20Taiwan.pdf

⁸⁰ <https://www.cfr.org/backgrounder/china-taiwan-relations>

country's reunification with US ally South Korea.⁸¹ However, the instability created by Pyongyang's nuclear ambitions—and the response of the international community—appear to be impacting Beijing's posture vis-à-vis their Northern neighbors. In recent months, China appears to have taken a harder line with its Northern neighbor: following the ICBM test conducted by the North in August 2017,⁸² unofficial spokespeople for the Chinese government signalled that Beijing would not come to North Korea's aid if the US retaliated following an attack perpetrated by Pyongyang.⁸³ Subsequently, in September 2017, China voted in favor of harsher economic sanctions against Pyongyang.⁸⁴ This stance is especially significant, as trade between China and the North was up 37.4% in the first quarter of 2017. This pivot may signal a new turn in Chinese-North Korean relations.

China's tougher stance in opposition to North Korea is being well received in Washington, although the Trump administration has repeatedly called upon Beijing to do more to pressure Pyongyang to freeze its nuclear program. At the same time, however, US experts speculate that Kim Jong Un may similarly be pressuring China to use its influence to soften Washington's hard line on the DPRK's nuclear program. Some analysts have even asserted that the timing of the DPRK's 2017 nuclear test around a summit of BRICS leaders in China was meant to encourage Xi Jinping to press Donald Trump to engage in talks with the North and abandon efforts to pressure it to give up its nuclear weapons program.⁸⁵ In the face of rising

tension on the peninsula, China's position with regard to North Korea is evolving to reflect the threat posed by its nuclear ambitions, their interest in maintaining good relations with Pyongyang, and pressure from the international community. Although the eventual outcome is far from clear, the escalating situation promises to exert significant influence on China's security posture toward Pyongyang and its relations with the rest of the P5 for the foreseeable future.

While the prospect of a nuclear-armed North Korea may have a significant impact on China's threat perception, so, too, does the potential for increased deployments of US Terminal High Altitude Area Defense (THAAD) interceptors in South Korea in response. These land-based mobile interceptors are designed to defend against short and medium range missiles, and the US military strongly supports deploying a THAAD battery there to defend against the threat posed by North Korea's missile development. In August, China officially called for a halt to the deployment of THAAD in South Korea,⁸⁶ but South Korea's new government nevertheless decided in August to proceed with the permanent deployment of additional THAAD interceptors pending an environmental assessment. China opposes the deployment of THAAD in South Korea because of concerns that the AN/TPY-2 radar that the interceptor utilises would diminish its second strike capability by permitting the United States to better distinguish between real and decoy warheads, according to American North Korea analyst Ankit Panda.⁸⁷ This perceived threat may influence China's defense posture in significant ways.

⁸¹ <https://www.project-syndicate.org/commentary/north-korea-strategic-options-by-richard-n--haass-2017-03>

⁸² <https://www.reuters.com/article/us-northkorea-missiles/china-hits-back-at-trump-criticism-over-north-korea-idUSKBN1AG04F>

⁸³ https://www.washingtonpost.com/world/china-warns-north-korea-youre-on-your-own-if-you-go-after-the-us/2017/08/11/a01a4396-7e68-11e7-9026-4a0a64977c92_story.html?utm_term=.4f9a3157bfc9

⁸⁴ <http://www.reuters.com/article/us-northkorea-missiles/u-n-security-council-votes-to-step-up-sanctions-on-north-korea-idUSKCN1BL12S>

⁸⁵ <https://www.nytimes.com/2017/09/03/world/asia/north-korea-nuclear-test-china-xi-jinping.html?mcubz=1>

⁸⁶ <https://www.reuters.com/article/us-northkorea-missiles-china/china-calls-for-halt-to-u-s-thaad-deployment-in-south-korea-idUSKBN1AL0OW>

⁸⁷ <http://thediplomat.com/2017/08/china-hits-back-at-south-koreas-thaad-deployment-following-north-koreas-latest-icbm-test/>

Impact of Emerging Threats to China's Nuclear Forces

Each of the challenges outlined above has the potential to affect not only China's threat perception but also the development of its conventional and nuclear forces in response. The most significant impact that these developments could have and, arguably, the one that would have the most profound repercussions for international security, would be to diminish China's commitment to No First Use. However, most US experts doubt that this policy, which has long been a hallmark of China's nuclear posture and distinguishes it from the other P5 members, will be abandoned. Nevertheless, the evolution of China's nuclear forces clearly reflect these and other challenges it views as threatening its national security. According to a 2016 report on Chinese Nuclear Forces published in the *Bulletin of the Atomic Scientists*, Beijing recently developed a new version of an existing nuclear medium-range mobile ballistic missile along with an entirely new dual-capable missile. These new capabilities have been pursued against the backdrop of nuclear force modernization and a reorganization of China's nuclear missile command structure.⁸⁸ They suggest that the factors influencing China's changing threat perception outlined above (including US alliance relationships with China's immediate neighbors) are shaping the country's defense policy and capabilities. Put differently, as the US and other countries develop or deploy capabilities that could impact the security of China's second strike capabilities, Beijing correspondingly modifies its nuclear policy and forces to ensure a credible minimum deterrent.⁸⁹

The full impact of US nuclear policy and capabilities on China's threat perception will become more clear as the tenor of US-China relations under Trump evolves. Some recent

examples hint at the types of challenges China may face from the US and others over the next four years. For example, with regard to trade, Washington has signaled that it will take a hard line with Beijing by threatening to launch a Section 301 investigation into whether China has violated intellectual property rights.⁹⁰ At present, however, there is little clarity with regard to Washington's specific policy objectives toward China, leaving Beijing to "parse statements from senior US officials for clues about Washington's intentions toward China,"⁹¹ in the assessment of one analyst. Interpreting these statements is especially challenging because of their wide-ranging and often contradictory nature. Nevertheless, a relatively functional personal relationship between Xi and Trump has prevented this lack of direction from becoming adversary thus far.

Border Security

After North Korea fired a second missile over Japan in mid-September 2017, India came out in full support of Japan's security interests. India's concern over China and Pakistan's long-standing military partnership means that its preferred partners in the region include countries who feel similarly strategically pressured. Further strengthening ties with Japan, as well as Australia, Singapore, Taiwan, and Vietnam, marks a departure from previous Indian attitudes towards US military alliance structures. A more emboldened India has showcased a truculent attitude towards its immediate neighbours, causing recent geopolitical tension that should be discussed. In particular, the Doklam tri-boundary point region, which is disputed between Bhutan and China, resurfaced as an issue during 2017. A military face-off ensued between India, a historically strategic partner of Bhutan, and China. The border standoff continued to escalate to a disturbing level, both in terms of rhetoric and troop levels, and overall was not readily understood by those outside of the

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<http://www.tandfonline.com/doi/full/10.1080/00963402.2016.1194054>

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https://www.rand.org/content/dam/rand/pubs/research_reports/RR1600/RR1628/RAND_RR1628.pdf

⁹⁰ <https://www.brookings.edu/blog/order-from-chaos/2017/08/14/u-s-china-relations-6-months-into-the-trump-presidency/>

⁹¹ Ibid.

region. Although it was eventually resolved, most analysts agreed that “China was caught off balance by India’s military response of deterrence by denial”.⁹² As India and China have both grown, and their definitions of their own interests have expanded, they increasingly share tense moments in the periphery that they both occupy, whether on land or on sea.

Apart from the Doklam tri-boundary point region, the more pressing issue facing India is the enduring conflict over Kashmir, which many have posited as the strongest potential “flashpoint” for a nuclear conflict breaking out. While this paper does not seek to assess that claim, it does hope to shed light on why Kashmir is a potential trigger for conflict. India and Pakistan’s portions of Kashmir are divided by the “Line of Control”, and while an official ceasefire has been in place since 2003, it is hard to say that that ceasefire still exists in practice today. The Line of Control was established because Pakistan has claimed this territory since the partition of British India in 1947, causing wars in 1947, 1965, and 1999. Known as the “ultimate stalemate”, namely due to the looming nuclear shadow of both country’s defense postures, the conflict over Kashmir has become not only a place of physical sparring, but also ontological sparring as both India and Pakistan refuse to accept the other’s idea of Kashmir’s identity. While Pakistan vehemently supports Kashmir’s right to self determination, India militarily maneuvers through the contested space in a way that seemingly undermines any democratic attempt that may leave Kashmir under the purview of Pakistani influence. BJP veteran leader Yashwant Sinha said it best: “I am looking at the alienation of the masses of people in Jammu and Kashmir. That is something which bothers me the most. We [Indians] have lost the people emotionally. You just have to visit the valley to realise that they have lost faith in us.”⁹³

⁹² <https://www.lowyinstitute.org/the-interpreter/doklam-who-won>

⁹³ <http://indianexpress.com/article/india/india-has-lost-kashmir-valley-emotionally-says-bjp-yashwant-sinha-arun-jaitley-4870103/>

According to government data, there were 228 ceasefire violations on the Line of Control in 2016 and have already been 444 ceasefire violations (as of September 14) in 2017. The increase in ceasefire violations broadly points to India beginning “surgical strikes” last year and Pakistan increasing the amount of militants it sent over the Line of Control. According to Sushant Singh, the changes exhibited over the past year could play a significant role in future Indian-Pakistani negotiations over Kashmir.⁹⁴ Singh writes that the surgical strikes were the first time that political leadership took ownership over trans-Line-of-Control operations, signifying a “huge shift” in the sanctity of the aforesaid boundary. Singh contends that India could begin to assert its sovereign claim over the whole of Jammu and Kashmir, instead of accepting the Line of Control.

Impact of Emerging Threats on South Asian Nuclear Forces

Without understanding the ontological security dimensions in the region, there is simply no way to properly assess the dynamic relationship between India and Pakistan. A state’s ontological security can be broadly defined as a state’s sense of self, and what ontologically disturbs the state is often the identity of who/what has become its opposing “other”. To project this concept onto the region under scrutiny, we find that threat perception between India and Pakistan endures in a way that has disallowed even a bilateral moratorium on nuclear testing to be agreed upon. This has left India and Pakistan to both unilaterally sign moratoriums on nuclear testing. In the context of this paper, this is a key example to how long-standing, entrenched distrust can outweigh making policy commitments that would serve both country’s physical security interests. Although India and Pakistan have indeed cooperated to build confidence, including within the nuclear security sector, the prospects for a concrete

⁹⁴ <http://indianexpress.com/article/opinion/columns/india-pakistan-tensions-what-the-surgical-strike-achieved-4862739/>

Indo-Pakistani bilateral agreement on nuclear testing is not foreseeable. The contestation of borders, such as those of Kashmir, have continued for decades, entrenching ontological insecurity between the two countries.

While Pakistan does not think that its participation in arms control agreements is “India-specific”, it can often be seen as “India-dependent”, whereas India argues that its nuclear posture is more vis-à-vis China.⁹⁵ Although Chinese thinking about nuclear weapons focuses on their relevance against the United States, the discussion inevitably also concerns the presence of two nuclear powers on China’s borders. According to a Carnegie Endowment study of Chinese academic literature, Chinese academics are broadly unconvinced by India’s explanation that its nuclear weapons programme is a response to China’s. Instead, they argue that India’s nuclear programme is driven by a different strategic insecurity, namely: the conventional balance versus Pakistan, domestic political anxieties, and a failure to understand that China’s nuclear programme is oriented towards the US rather than its neighbours. In brief, the Chinese academic opinion fails to take seriously the possibility that China’s nuclear weapons programme could have provoked legitimate and rational security concerns from its neighbours, which in turn spurred nuclear proliferation in the subcontinent.⁹⁶ Ultimately, the prevalence of both physical and ontological security disputes undermine confidence and trust in the region, and in turn, undermine the credibility of the unilateral moratoria the countries have kept in place until now.

Both India and Pakistan are modernizing their nuclear arsenals, and the impact of emerging threats in the geo-political landscape on those

plans is varied. While Pakistan has been clear about its intentions to use nuclear weapons to counter Indian conventional forces, the scope of their short-range, tactical nuclear weapons arsenal has been up for debate. This year, Pakistani Prime Minister Shahid Khaqan Abbasi confirmed that the country has developed short-range nuclear weapons, and noted that this development is specifically a counter to India’s Cold Start doctrine.⁹⁷ While India still holds a domestically contentious “No First Use” (NFU) policy in regards to nuclear weapons, India has at least four new weapon systems under development.⁹⁸ As the asymmetry between India and Pakistan’s conventional forces increases and the potential for conventional-turned-nuclear occurrences also increases, more of an emphasis may be placed on the nuclear deterrent in security policy as a basis for progress through dialogue and deeds. However, a lack of immediate focus on managing the risks of confrontation combined with a lack of established, undisputed facts surrounding confrontations that are seemingly already occurring (ex. Indian surgical strikes in the “flashpoint” of Kashmir), means that the current geo-political landscape may result in nuclear-related exercises, incidents, or exchanges. In sum, the concept of “flashpoint” comes from the fact that both countries are taking steps to lower the nuclear threshold and engage in complex deterrence which makes nuclear exchange and/or miscalculation/miscommunication that much more likely.

5. Analyses of Decision-Making Process & Influencing Factors

China

Form and Structure of Government:

General: China is governed as a single-party, semi-presidential socialist republic. There are three main organizations who shape national

⁹⁵ The distinction between “India-specific” and “India-dependent” was inspired by comments made by Rebecca Johnson at the 2016 CTBTO Science and Diplomacy symposium.

⁹⁶ <http://carnegieendowment.org/2016/06/30/china-s-perceptions-of-india-as-nuclear-weapons-power-pub-63970>

⁹⁷ <https://www.cfr.org/event/conversation-shahid-khaqan-abbasi>

⁹⁸ <http://thebulletin.org/2017/july/indian-nuclear-forces-201710907>

security decisions: the Chinese Communist Party (CCP), headed by the Politburo; the National People's Congress (NPC); and the People's Liberation Army (PLA).⁹⁹

The Chinese Communist Party, the biggest political party in the world, is the only legal political party in China. As such, it exerts profound influence on the lives of the 1.3Bn people living in the country. It is headed by the Politburo, a handful of the most powerful people in the country. Every matter of significance is first discussed in the Chinese Politburo, and most decisions are made by the 9-person Standing Committee which operates as a cabinet of sorts. The inner-workings of the committee are not well-known, and the decisions made by it are binding to all members. Internal disputes rarely go public.¹⁰⁰

The National People's Congress, while meant to be the real governing organization in China, usually relies on the Party's decisions. The NPC consists of 2924 representatives elected by China's provinces, autonomous regions, municipalities and the armed forces. The congress convenes once a year, which means that most significant decisions made by congress are shaped by 150 members of its standing committee. In recent years, the NPC has increased its independence from the party, and that seems to be a growing trend. It is the NPC that elects the President, the Vice-President, and several other key figures including the Chairman of the Central Military Commission.¹⁰¹

Historically, the People's Liberation Army (PLA) was highly involved in state politics, but since the 1980's it has become increasingly professional and the fabric of civil-military relations has shifted. However, as it is deemed the protector of the party, it remains involved to a certain degree. In the nuclear issue,

specifically, the army maintains a very significant say.¹⁰²

Elites and Influential Groups:

General: Due to the form of government in China, nuclear issues are managed by government bureaucracies and government-affiliated organizations. Non-governmental organizations have very little, if any, influence on matters pertaining to China's nuclear force buildup, operation and disarmament policies. However, civil-military tensions did characterise, to an extent, the nuclear decision making processes in China in recent decades. The main civilian organization dealing with disarmament and arms control in China is the Ministry of Foreign Affairs (MFA). In the 1980's China started to open up to discussing disarmament matter with the West, a process which was spearheaded by the MFA. Through correspondence and contact with various Western governments and NGOs, many young Chinese diplomats became experts on disarmament issues. It was this creation of a cadre of experts that led, in 1997, to the MFA has established the Department of Arms Control and Disarmament.¹⁰³

As the organization in charge of the buildup and operationality of Chinese nuclear forces, the PLA obviously also plays an important part. Specifically, several organizations that are either part of the PLA or affiliated with it, are hubs of nuclear policymaking: the PLA's General Armaments Departments; the PLA's General Staff Department; China's Institute for International Security Studies; the Institute for Strategic Studies at the National Defence University; and, last but not least, the State Administration for Science, Technology, and

⁹⁹ <http://www.bbc.co.uk/news/world-asia-pacific-13904437>; see also

<https://sites.duke.edu/polsci324f2013/2013/09/20/yllabus/>

¹⁰⁰ *ibid.*

¹⁰¹ *ibid.*

¹⁰² *ibid.*

¹⁰³ Gill, Bates, and Evan S. Medeiros. "Foreign and domestic influences on China's arms control and nonproliferation policies." *The China Quarterly* 161 (2000): 66-94; Johnston, Alastair Iain. "Learning versus adaptation: explaining change in Chinese arms control policy in the 1980s and 1990s." *The China Journal* 35 (1996): 27-61.

Industry for National Defense (often referred to as SASTIND).¹⁰⁴

The China Atomic Energy Authority (CAEA) is the professional organization in charge of dictating China's nuclear policies, representing China in international nuclear-related professional forums such as the IAEA. The CAEA reports to SASTIND.¹⁰⁵

Other Influencing Factors:

General: In addition to domestic politics, China's nuclear policies have been influenced in recent decades by several key external factors, namely: China's international status; end of the Cold War and potential for multipolarity; American pressures; regional politics; and technical issues.

International Status: in many of its actions, China is striving to attain a global superpower status, and is therefore often guided by the way it perceives itself, and by the way other actors perceive it. For this reason, with China's growing realization that such status is within its grasp (and some might say it has already been achieved, but China itself sometimes still acts slightly insecure of that), respecting international treaties and norms suddenly carries a more significant weight. The responsibility cast on China as a global leader is, therefore, very much noticeable in Chinese foreign policy, and nuclear policy specifically.¹⁰⁶

End of the Cold War and Multipolarity: For the above reason, one can also notice how towards the end of the Cold War, and during the 1990's, Chinese foreign policy shifted. The end of the Cold War and the death of bipolarity was the sign for the beginning of China's ascendancy. With that, China started assuming a more constructive and responsible role in the international community, and was

therefore also more susceptible to pressures in international forums.¹⁰⁷

American Pressure: China's ascendancy also meant, at times, ambiguous relations with the one remaining superpower at the end of the Cold War. On the one hand, the two nations have extensive trade relations and financial and economic interdependence, and on the other hand pressures have often peaked between them on various grounds. Examples of policy "clashes" between China and the United States can be observed in selling nuclear equipment to Iran, handling North Korea, and territory disputes in the South China Sea.¹⁰⁸

Regional Politics: As with this last examples, China's clashes with the United States are often related to regional politics of the pacific states, many of the in defense alliances with the United States. In addition, China and India border disputes occasionally lead to tensions and even violent clashes, as was the case fairly recently.¹⁰⁹ Tensions in South Asia are especially volatile as they have a clear nuclear element. Finally, as China historically used to conduct its nuclear weapons tests in the northeastern regions of the country, this sometimes resulted in criticism from ex-Soviet republics--namely Kazakhstan, Kyrgyzstan and Uzbekistan--that had influence on Chinese decision making.¹¹⁰

Technical Issues: Being the last country to conduct a nuclear test before the entry to power of the NPT and enjoy an NWS status has some clear advantages for China. However, the perception of the West of China as technologically less advanced when it comes to nuclear weapons has often been a factor that shaped Chinese takes on disarmament and arms control agreements.¹¹¹

¹⁰⁴ Bates and Medeiros, 2000

¹⁰⁵ <http://www.nti.org/learn/facilities/778/>

¹⁰⁶ Bates and Medeiros, 2000

¹⁰⁷ Ibid; Johnston, 1996

¹⁰⁸ Bates and Medeiros, 2000

¹⁰⁹ <https://www.theguardian.com/world/2017/aug/16/india-n-chinese-troops-clash-disputed-himalayan-border-region>

¹¹⁰ Bates and Medeiros, 2000

¹¹¹ Ibid; Kristensen, Hans M., and Robert S. Norris.

"Chinese nuclear forces, 2016." *Bulletin of the Atomic Scientists* 72, no. 4 (2016): 205-211;

The fact that gradual technological improvements in United States' counterforce abilities, for example, renders it possible to execute a successful disarming first-strike against China, is a great impetus for Chinese arsenal modernization and stockpile buildup.¹¹²

General Nuclear Decision Making:

General: Given all of the abovementioned factor, nuclear decision making in China in the past 50 years can be drawn according to three main eras:

1960's and 1970's: China is the "youngest" NWS, and suffers from a significant technical inferiority compared to the other four, especially compared to the United States and Soviet Union. As such, it meets discussions on nuclear disarmament with great skepticism, believing it to be a method of competing powers to perpetuate China's nuclear inferiority. In these years China refuses to join the NPT, to be a party to arms-limitation talks, or to even adopt a "disarmament speech", often referring to arms control as "sham disarmament".¹¹³

1980's to early 2000's: China begins to recognise its ascendancy potential, shows more openness, willingness to change, and all around a more pragmatic approach on nuclear matters. The surge of handling non-proliferation and arms control talks leads to the emergence of highly qualified personnel in Chinese bureaucracies, scientific institutions and strategic research centers. China starts to adopt "disarmament speech", warning from the instability that the renewed US-SU arms race brings forth. Chinese experts exchange ideas with Western officials and NGOs, including nonproliferation organizations such as the Union of Concerned Scientists, ISODARCO and FAS. In this period China joined the NPT, signed the CTBT and the

CWC, and also supported several regional treaties.¹¹⁴

Late 2000's and 2010's: China begins wide-scale modernization process of its nuclear forces. In recent years China has emphasised modernization of its land-based systems, namely MRBMs, IRBMs and ICBMs, to support both its regional and global deterrence capacity. Furthermore, it has reorganised its nuclear command and control to a more robust disposition. While officially not backing down from its no-first-use policy, the 2013 whitepaper did not mention the policy explicitly, raising suspicions and worries worldwide.¹¹⁵

CTBT-related Decision Making:

General: While not yet ratifying the CTBT, China has been a signatory party to the treaty since 1996. The signing of the treaty was a significant move on China's behalf, as it was the first time that China has "*agreed multilaterally to cap its own weapons capabilities under verifiable conditions*". Several factors contributed to that, and these can be roughly divided into three categories: external pressure; domestic politics; and technical achievements.¹¹⁶

External Pressure: China was the sole NWS to not be a party to the informal moratorium on nuclear testing that has preceeding the CTBT negotiations and its eventual signing. As such, it's ongoing nuclear testing throughout the early 1990's led to growing pressures from international and regional actors. Japan, for example, put great pressure on China following nuclear tests, and China is even believed to have cancelled a planned test to avoid Japanese sanctions. The pressure from the ex-Soviet republics to China's north-east was already mentioned. In fact, China was the only country who kept testing nuclear weapons well into the concluding stages of the negotiations on the CTBT (France

¹¹² See Lieber, Keir A., and Daryl G. Press. "The New Era of Counterforce: Technological Change and the Future of Nuclear Deterrence." *International Security* (2017).

¹¹³ Johnston, 1996.

¹¹⁴ Ibid; Bates and Medeiros, 2000

¹¹⁵ Kristensen and Norris, 2016; <http://nti.org/26773GSN>

¹¹⁶ Bates and Medeiros, 2000, p. 68.

conducted its last test on January 1996, China in July that year, the negotiations ended in August).¹¹⁷

Domestic Politics: The traditional Chinese belief that disarmament talks are ways to limit and hold back China's nuclear developments was the ultimate background for the domestic debate on the CTBT. Roughly, the debate can be drawn along civil-military lines, with a few exceptions. The PLA and the defense industries claimed that China was not "technically ready" to sign and that testing is still crucial to strengthen its nuclear might and improve features pertaining to safety, security and reliability. In that, the military still held the traditional position of the CTBT as a Western-enforced set back for Chinese development. The MFA, however, claimed that the CTBT was inevitable. Furthermore, they believed that if necessary, China could keep testing before the treaty enters into force and even conduct some tests in the guise of a PNE. However, signing would enable China to retain its international status, strengthen the nonproliferation regime, allow for further economic development, and contribute to the implementation of US-Russia arms reduction treaties. It was this position, and the leadership's preference of long-term goals over short-term gain, that led China to eventually sign the CTBT.¹¹⁸

Technical Achievements: As mentioned earlier, great international pressure was put on China due to its continued testing in the two years of CTBT negotiations. Allegedly, early in the negotiations the Chinese had very stern opening requirements on PNEs and the verification regime. However, in June 1996 China announced that after one more nuclear test it will end its testing program, and conducted said test in July. It is might the case that in the period between 1994 and 1996 China has achieved a far-greater technical improvements than anyone in the West thought possible, after which it was able to safely abolish its testing program. If that is the

case, it might mean that China's opening bargaining position was a method to buy more time for testing. It follows, therefore, that the technical achievements played a great role in enabling China to enter the CTBT, and do so with the consent--however reluctant--of the military and defense industries.¹¹⁹

India

Form and Structure of Government:

General: India is a Federal Republic whose Constitution draws a separation between three governmental branches: legislative, executive and judicial. The country boasts to be the largest democracy with a living Constitution. India's head of state is an indirectly elected ceremonial President, though most of the constitutional vested executive powers are to be found in the office of the Prime Minister who is the head of government. The constitutional Parliament and the Supreme Court make up the remaining governing branches.

The Indian Parliament, is a bicameral federal parliament housing the Rajya Sabha or council of states (upper house) and the Lok Sabha or house of the people (lower house). The Federal Republic presides over 29 states and six Union territories, and representatives to the Lok Sabha are elected based on constituencies in a "first-past-the-post system". It houses 545 members, of which reserved seating is considered for scheduled castes, tribes and Anglo-Indians nominated by the President. Members of the Rajya Sabha are 245 officials, of whom 233 are elected by an assembly of state legislative and union territories, and 12 by the President¹²⁰. They serve for six years and the house sees one-third of its members retiring every 2 years.¹²¹ Legislation can be submitted to "either house, but the Lok Sabha has final say in financial

¹¹⁷ *ibid.*

¹¹⁸ *ibid.*

¹¹⁹ *ibid.*

¹²⁰ Articles 4(1) and 80(2), Indian constitution, 6 year term, contributions to the arts, science, literature and social service.

¹²¹ <http://thecommonwealth.org/our-member-countries/india/constitution-politics>

matters", as well as electing the Prime Minister.^{122 123}

The President, is the head of state and Supreme Commander of the Armed Forces, elected by an electoral college of both houses of Parliament and legislative assemblies of each state and territory. The President serves for a 5-year term with no limit on the number of terms served at this post. The office of the Vice President is also elected via an electoral college. The President is duty-bound by oath to "preserve, protect and defend the Constitution and the law"¹²⁴ the legislative powers of the office are vested in the Parliament. To assist the office of the President in governmental affairs, the office can appoint a Prime Minister. The person selected for this task must have a supporting majority in the Lok Sabha, since, as stated in the constitution, the powers of the state "shall be exercised by" the President "directly or through officers subordinate"¹²⁵

The Prime Minister, is a figure that leads a majority political party or coalition in the Lok Sabha, and is nominated to the position on the basis of the Westminster System that places the Prime Minister (PM) as the head of government, the office is vested with almost all executive powers of the head of state. After being appointed to the position by the President the PM is to advise the President and head the Union Council of Ministers that consists of a smaller body comprised of senior cabinet ministers and the PM, called the Union cabinet the main decision making body.

Elites and Influential Groups:

India's nuclear weapons program was arguably facilitated by its extensive civil nuclear program from which it was able to obtain necessary materials of expertise leading

towards an explosive device. The country's nuclear program is based heavily on two facilities for fissile materials: the heavy water reactors at Bhabha Atomic Research Centre (BARC) and a chemical reprocessing plant for plutonium separation in Trombay.¹²⁶

The Defence Research and Development Organization (DRDO), with regards to the nuclear weapons program, is tasked with developing advanced weapons and with the production of high explosive components and weaponizing nuclear devices. The agency is under the supervision of the Ministry of Defense, headed by the cabinet ministers of defence and supported by a state minister.

The Department of Atomic Energy (DAE), is the operator of India's atomic energy commission (AEC) and the atomic research Centre (BARC). The Department is under the directive of the Prime Minister. The DAE is responsible for the developments, design and upkeep.¹²⁷

Internal factors and matters of prestige, India's nuclear program was conceived by "a small group of influential scientists noticeably, Homi Bhabha" from even before its independence. "In August 1947, Prime Minister Jawaharlal Nehru launched an ambitious nuclear program meant to boost the country's prestige and self-reliance in energy". While the aim was to produce "inexpensive electricity" the development of a nuclear fuel cycle provided India with the technical know-how and capability to produce nuclear weapons. India's dynamic political arena has shown that it can complicate matters as was the case with the United States-India civil nuclear agreement, where the Communist Party and its allied factions oppose the deal on the basis that it could jeopardise Indian sovereignty and government secrecy over certain aspects of the deal.

¹²² *ibid.*

¹²³ <http://thediplomat.com/2014/03/how-indias-national-elections-work/>

¹²⁴ Federal Republic of India Constitution (article 60), <https://indiankanoon.org/doc/1102405/>

¹²⁵ The president also has the power to dissolve the lower house

¹²⁶ Dhanda, S. (2009). India's nuclear weapons programme: Retrospect and prospects. *Indian Foreign Affairs Journal*, 4(1), 90.

¹²⁷ <http://www.nti.org/learn/countries/india/nuclear/>

Nuclear Command Authority (NCA), is part of India's "Command and Control" (C2) mechanism, with the intent of keeping the country's NWs under civilian control, The Cabinet Committee on Security (CCS) instituted the political and executive councils of the NCA. In tandem, the two councils are the authority decision makers regarding operations and C2 of the Indian NWs, wherein the Political Council, chaired by the PM, is the ultimate authority in the utilisation of the country's devices based on the opinions of the executive council.

Other Influencing Factors:

It can be suggested that regional security factors may have played a significant role in India's path towards nuclear weapons. Tensions with neighboring states China and Pakistan, as well as certain debates over the effective capability of India's nuclear weapons, from a security perspective, may be seen as significant influencing factors driving the Indian program. Another enabling factor, or "by-product", possibly shared by NWs as well as those on the theoretical and physical periphery could be the "prestige", acclaim and "status" attributed to possessing a fully sovereign nuclear capacity.¹²⁸

China, geopolitically maybe considered to be India's most staunch rival in the region. The two have a history of military confrontation, among which the Sino-Indian war of 1962 and the Nathu La and Cho La clashes of 1967 are considered by some as focal points of contention. It could be argued that from an Indian perspective China's WNs program was not simply to deter the Soviet Union, coupled with territorial disputes and the impedance of relying on others states for one's own security could have played a decisive role in exhilarating and expanding the weaponisation of India's nuclear program. The 1993 agreement between the two neighbours "to maintain peace and tranquillity" maybe seen as part of a developmental processes dating back to the

late 80's. Sino-Indian relations may be better than they were decades ago, but some scholars suggest that the two are competing over "regional dominance".¹²⁹ Developments in China's nuclear program and its consequences on regional security could be straining India's Credible Minimum Deterrence (CMD) policy, a matter that could better explain its planned weapons systems and strides toward a nuclear triad. China's developmental project One Belt One Road, that could arguably encroach on disputed territory, as well as the relationship with Pakistan, adds further [geopolitical] strain on India.¹³⁰

Pakistan, and Indian tension, according to some authors over disputed territories, may be a key factor influencing the countries NWs program. Events such as the Kargil Conflict, highlighted concerning issues, weaknesses and difficulties of combat in high altitude and terrain. On top of these factors, lied the understanding that misperceptions and/or miscalculations could lead to war, possibly with nuclear weapons. It could be argued that Kashmir has a central role in tensions between India and Pakistan, but from an Indian perspective Pakistan's military advances and aspirations coupled with its "support for terrorist factions operating from within its soil" are other major current factors of concern. Pakistan has a "no-first-use" policy that extends only to Non-Nuclear Weapons States. A matter of concern for some in India, was the issue of India's "no-first-use" policy and whether it extended to nuclear devices being used against Indian assets not on Indian territory. The NSAB added certain modifications to its nuclear doctrine in 2003, wherein "India will retain the option of retaliating with nuclear weapons" "in the event of a major attack against [...] Indian forces anywhere". China's relationship with Pakistan, which goes beyond mere military cooperations, is an additional point of

¹²⁸ <https://southasianvoices.org/indias-nuclear-deterrent-a-desire-for-immunity/>

¹²⁹ Malik, J. M. (1995). China-India Relations in the Post-Soviet Era: The Continuing Rivalry. *The China Quarterly*, 142, 317-355.

¹³⁰ <http://thediplomat.com/2016/07/the-growing-india-pakistan-china-nuclear-rivalry/>

concern, seeing how projects such as the China Pakistan Economic Corridor (CPEC), might grant China access to the Arabian Sea via the port of Gwadar, [in a way flanking India].^{131 132 133 134}

Insecurity, some may suggest that the debate "among India's strategic elite" pertaining the nuclear program is less focused "on the deterrence value of nuclear weapons and more on their symbolic value as a currency of power and prestige in international relations", "from this perspective, India's desire for international 'social recognition'" may have been a powerful drive behind tests carried out in 1998. Reports that some of Indian nuclear test may have fizzled raises concerns regarding effective potential of the country's arsenal. To this end, there are calls by groups for further testing.¹³⁵

General Nuclear Decision Making:

The "Standstill Agreement", of 1954 was an initiative by PM Jawaharlal Nehru whose efforts helped in achieving an "international momentum" for the Limited Test Ban Treaty (LTBT), during a time when the Soviet Union and the United States were developing and testing their devices with greater frequency.

10 years after China, India conducted its first test formally labelled as a "Peaceful Nuclear Explosion" (PNE) in 1974. Also known as the "Smiling Buddha", it was given the green light by PM Indira Gandhi. India's decision to move towards a nuclear program could be seen as a result of trauma-learning coming off the back of the Indo-Pakistan War of 1971 and its surrounding events. The Nuclear Suppliers Group (NSG) was a response to the Indian nuclear test in order to prevent nuclear

proliferation through collective control and regulation of nuclear sensitive equipment, material and technologies.

The nuclear status quo, seems to be a central point of concern leading to Indian reservations regarding the NPT and the CTBT. As one of the co-sponsors calling for a test ban treaty in 1993, India's principal stance is to have a "complete time-bound universal nuclear disarmament", but the indefinite extension of the NPT, may have influenced India's decision to block the adoption of the treaty at the Conference on Disarmament (CD) in 1996.

Some scholars suggest, that the tests carried out by India in 1998 may have stemmed from "domestic factors in India, such as the weak coalition government and a desire to appease the nuclear-scientific-technical cabal," that "may have forced New Delhi's" hand¹³⁶. After the tests India in placed a "no-first-use" policy and set to develop a nuclear doctrine of CMD, devised and drafted by the National Security Advisory Board (NSAB) the government adopted the policy in 2003.

CTBT-related Decision Making:

India's stance with regards to the CTBT could possibly be linked to its position and condemnation of the Nuclear Non-Proliferation Treaty (NPT), as "nuclear apartheid [...] divided the world into nuclear haves and have-nots". The 1995 indefinite extension of the NPT, without a commitment from Nuclear Weapons States to disarm, was not a favourable outcome for the "have-nots". Indian concern regarding the CTBT could possibly be on par with its unease over the NPT that it provides an avenue for those with the capacity to "upgrading their arsenals through subcritical and laboratory simulated testing"

¹³¹ *ibid.*

¹³² <http://www.scmp.com/week-asia/article/2022087/why-china-caught-india-pakistan-crossfire>

¹³³ Dhanda, S. (2010). Nuclear Weapon Programmes of India and Pakistan: A Comparative Assessment. *South Asian Survey*, 17(2), 255-281.

¹³⁴ <https://southasianvoices.org/indias-nfu-dilemma-not/> Noor, S. (2016). India's NFU Dilemma: To Be or Not to Be.

¹³⁵ *ibid.*

¹³⁶ *ibid.* (author goes onto say that these explanations alone are insufficient to explain why India developed nuclear weapons in the first place, (Chari 2000: 123; Ganguly 1999b: 438; Mahmood 1999: 42-43).

Pakistan

Form and Structure of Government:

General: Pakistan was born in 1947, amidst a unique combination of struggles and challenges, initially as a republic within the Commonwealth. After a history of political struggles and shifts to the governmental system, Pakistan's 1973 Constitution established the country as a Federal Republic—The Islamic Republic of Pakistan. As a Federation, Pakistan is comprised of four provinces: Punjab, Sindh, Khyber Pakhtunkhwa (formerly North-West Frontier Province, or NWFP) and Balochistan. The constitution has been amended many times over the years, but recent trends including repealing changes made by military regimes and increasing provincial independence.¹³⁷

Executive Branch – the President: Leads the country and acts on the advice of the Prime Minister. The President is elected in a secret ballot by the legislative bodies, namely the Senate, the National Assembly and the Provincial Assemblies. He holds office for 5 years per term, and is not allowed to remain in office for more than two terms. The office is a ceremonial one. Its vested powers and privileges have varied over time through differing constitutional amendments, most recently under amendment 18 in 2010.

Executive Branch – the Prime Minister: The Prime Minister (PM) is the official head of government or "chief executive of the Republic". Raised to the office via the National Assembly, the PM normally enjoys a sporting majority among representatives in parliament. In a constitutional amendment on April 8, 2010 Pakistan has stepped towards a Parliamentary Republic. The PM heads the Cabinet of ministers and advisors shall be held responsible to the Senate and the National Assembly and chosen to assist and advise the office of the President. the PM is also the main authority in command of the country's nuclear

arsenal. The PM is appointed by the President and has to have a majority support in the House. The Federal Cabinet, ministers and advisors chosen by the President at the advice of the Prime Minister, serves as the ministerial elite of the country.¹³⁸

Legislative Branch: based on a bicameral system, the legislative branch of Pakistan includes the Senate (upper house) and the National Assembly (lower house). The National Assembly, headed by the PM, has 342 seats, in which 272 are chosen on a first-past-the-post constituency-based elections. 60 more seats are reserved for women and minority representatives. The Senate is comprised of 100 members, with equal representation to each of the four provinces (14 members each), 8 members elected from the Federally Administered Tribal Areas and some specific representation for minorities and women.¹³⁹

Judiciary Branch: The Pakistani Constitution gives every citizen the right to be protected by law, as long as loyalty to the Republic and obedience to the law are maintained. The Constitution is the ultimate judicial document and serves to guide the rulings of the Supreme and provincial high courts. Any attempt to undermine the Constitution is regarded as high treason.¹⁴⁰

Military: The Pakistani Military is an important pillar of the country's politics. Apart from its role in several coups and as a mediator between various facets of federal and local government, the Military has an important role in shaping the country's foreign policy, especially when it comes to relations with Afghanistan and India. When it comes to decisions pertaining to war planning, including nuclear war, the Joint Chiefs of Staff Committee is a significant decision-making hub.¹⁴¹

¹³⁷ https://www.cidob.org/en/content/download/32418/526985/file/ANEXO_SISTEMA+POLITICO+Y+ESTRUCTURA+DE+PAKISTAN_ANG.pdf

¹³⁸ *ibid.*

¹³⁹ *ibid.*

¹⁴⁰ *ibid.*

¹⁴¹ *Ibid.*; Bhimaya, Kotera M. "Nuclear deterrence in South Asia: Civil-Military relations and decision-making." *Asian Survey* 34, no. 7 (1994): 647-661.

Elites and Influential Groups:

Pakistan Atomic Energy Commission: In charge of Pakistan's nuclear reactors and research facilities. Founded in 1956, the PAEC was mainly tasked with nuclear energy development, however in the 1970s it was ordered to produce nuclear weapons. In recent years, with the reorganization of Pakistan's nuclear disposition, the PAEC focuses on peace uses of nuclear energy.¹⁴²

National Security Council of Pakistan: A constitutional body established by President Pervez Musharraf in 1999 and reporting to the President and Prime Minister of Pakistan. While not central for discussing sensitive policy matters, the NSC has played a significant role in the consolidation of key organizations related to nuclear policy and in aggregating the nuclear research laboratories into the military.¹⁴³

National Command Authority: Pakistan's highest ranking authority on matters pertaining to missiles and nuclear weapons and the overseer of Pakistan's nuclear and missile programs. Primary authority is the PM, and while seemingly civilian in nature, it is assumed that in times of emergency control over such issues will be handed over to the Military. The NCA is comprised of ten members from both civilian and military authorities, and has two primary divisions: the Employment Control Committee and the Development Control Committee (ECC and DCC).¹⁴⁴

National Engineering and Scientific Commission and the National Defense Complex: these two organizations are in

charge of the defense development programs of Pakistan, and namely its missile programs.¹⁴⁵

Other Influencing Factors:

India: By far the most significant determinant of Pakistan's nuclear policies, and the most notable threat Pakistan sees to its existence. Three bloody border wars and numerous border incidents mean that the relationship between these neighboring countries are characterised by severe tensions and occasional outbreaks of violence. India's conventional superiority, as well as the fact that it had achieved nuclear weapons before Pakistan, make Pakistani leadership and public opinion extremely wary regarding India's regional policy. It was losing the 1971 war between the countries that led Pakistan to embark on a nuclear weapons program, and it is the "Indian Factor" that still shapes most of Pakistan's regional and international policies on nuclear and disarmament issues.¹⁴⁶

Political Instability and Corruption: As mentioned earlier, Pakistan's political history has been a tumultuous one, paved with attempted-coups and political assassinations. Rarely was power held by a strictly civilian candidate and tensions between the federal branches of government often run high—namely between the government and judiciary, and the government and the military.¹⁴⁷

War on Terror: since the US invasion of Afghanistan in 2001, Pakistan has been a frontline state in the War on Terror. This meant a peak in rates of violence in the country and terror attacks conducted by Al-Qaeda in the recent past (that has since slightly subsided), in

¹⁴² <http://www.nti.org/learn/facilities/85/>

¹⁴³ <http://www.nti.org/learn/facilities/583/>

¹⁴⁴ <http://www.nti.org/learn/facilities/584/>; Kristensen, Hans M., and Robert S. Norris. "Pakistani nuclear forces, 2016." *Bulletin of the Atomic Scientists* 72, no. 6 (2016): 368-376; Miraglia, Sébastien. "Deadly or Impotent? Nuclear Command and Control in Pakistan." *Journal of Strategic Studies* 36, no. 6 (2013): 841-866.

¹⁴⁵ <http://www.nti.org/learn/facilities/586/>;

<http://www.nti.org/learn/facilities/634/>

¹⁴⁶ <http://www.nti.org/learn/countries/pakistan/>; Shaikh, Farzana. "Pakistan's nuclear bomb: beyond the non-proliferation regime." *International Affairs* 78, no. 1 (2002): 29-48; Narang, Vipin. "Posturing for peace? Pakistan's nuclear postures and South Asian stability." *International Security* 34, no. 3 (2010): 38-78.

¹⁴⁷ [https://www.cidob.org/en/articulos/anuario_internacional_cidob/2012/pakistan_country_profile/\(language\)/eng-US](https://www.cidob.org/en/articulos/anuario_internacional_cidob/2012/pakistan_country_profile/(language)/eng-US);

addition to ongoing US drone attacks. Sectarian tensions have also reached extremely high levels in the past decade, as a result, and this is likely to remain a challenge in the near future.¹⁴⁸

Separatism: While Pakistan was conceived as a federation, state power has been dominant and centralised since its foundation. This, in turn, led to some pressure between federal and local government, especially with regards to the province of Balochistan, where separatist aspirations run high. However, control over nuclear weapon remains at the hand of the central government.¹⁴⁹

Post-Colonial and Muslim Identity: The technological achievement in building the first Muslim bomb and its symbolic meaning is a major component of Pakistan's declaratory politics. They view the weapon as an achievement that puts them in the forefront of anti-colonialism and places them as a significant leading power in the Muslim world. They therefore use talks and negotiations on arms control treaties to emphasise that the contemporary nuclear order perpetuates an old colonial world order.¹⁵⁰

Iran: As the only Muslim nuclear weapon state, Pakistan's identity as a Sunni-dominated country means potential tensions with its Shiite neighbor, the Islamic Republic of Iran. The fears of a potential nuclear Iran and its effect on the Muslim and Arab world, have allegedly led Pakistan to engage in a nuclear sharing pact with its Sunni ally of Saudi Arabia, but that might turn out to be mere speculation.¹⁵¹

Proliferation Fears: Pakistan's unique situation, being perhaps the least stable country to own nuclear weapons, has resulted in many debates and worries about the security of Pakistan's nukes. Several possible scenarios are often discussed: radical Islam

factions taking over the country; terrorist attack on a nuclear facility; and/or rogue factions getting control of a nuclear device, possibly with help from within Pakistan's nuclear disposition. The latter is reinforced by the proliferation legacy of AQ Khan's network, infamous for aiding the nuclear aspirations of North Korea, Iran and Libya.¹⁵²

International Status: Despite its critical approach towards contemporary nuclear order, Pakistan holds its international status dear, and historically several of its nuclear decisions were influenced by prospects of improving said status. However, the "India Factor" always trumps such considerations, as existential threat and national security matters weigh more heavily on Pakistani leadership and popular opinion. Additionally, post-9/11 the United States lifted many sanctions against Pakistan in return for Pakistani cooperation in the War on Terror. At this state, Pakistan is further discouraged from joining arms control treaties, as leverages previously held by the West were removed.¹⁵³

General Nuclear Decision Making:

NPT Negotiations: While not a signatory party to the NPT, reviewing Pakistan's refusal to sign the treaty does shed light on its nuclear decision making processes and the factors guiding it. In 1968 Pakistan refused to sign the NPT unless India does so earlier. While the "India Factor" remained crucial in later stages, Pakistan was also now in the process of building its own nuclear weapons, serving as yet another reason not to sign the treaty. 1995 saw a debate within Pakistan on whether or not to join the NPT. One group claimed it would benefit Pakistan economically and internationally, and, if worst come to worst, the NPT did have escape clause. The second group opposed joining the NPT for national security reasons, arguing that Pakistan must rely on nuclear weapons due to its

¹⁴⁸ *ibid*;

¹⁴⁹ *ibid*;

¹⁵⁰ *ibid*.

¹⁵¹ <http://www.bbc.co.uk/news/world-middle-east-24823846>

¹⁵² <http://www.nti.org/analysis/articles/nuclear-watch-pakistan/>

¹⁵³ Krepon, Michael. "Looking Back: The 1998 Indian and Pakistani Nuclear Tests." *Arms Control Today* 38, no. 4 (2008): 51.

conventional inferiority vis-à-vis India. After its nuclear tests in 1998 Pakistan held that it would join the NPT only under NWS status.¹⁵⁴

Official Nuclear Policy: Pakistan holds a no-first-use policy against non-nuclear weapon states, but makes no such assurances towards nuclear weapon states. In addition, Pakistan's official policy is one of Credible Minimum Deterrence, wishing to avoid any type of arms race. Pakistan is also signed on several bilateral agreements with India, including the 1991 India-Pakistan non-attack agreement, and the 1999 Lahore Declaration (the latter isn't focused on nuclear matters, but rather a document with nuclear-related implications).¹⁵⁵

Nuclear Postures: According to Vipin Narang, between 1986 and 1998 Pakistan employed a *Catalyst* nuclear posture, using its nuclear arsenal and the threat of nuclear use to urge global powers--namely the United States--to intervene. However, since 1998 Pakistan employed an *Asymmetric Escalation* posture, showing willingness to use nuclear weapons first against its rival in case of severe losses in a conventional war.¹⁵⁶

Command and Control: Traditionally, it has almost always been the military to make significant decisions in crises and wartime. The confusion around Pakistani nuclear weapon deployment during the 1999 Kargil Crisis, led President Musharraf to form a robust and highly-centralised three-tiered C2 system. At the top tier stand the NCA, overlooking all the nuclear activities in the country. The second tier, the SPD (Strategic Plans Division) is the de-facto secretariat of the NCA and the mediator between the NCA and the operators. The third and final tier is the three Strategic Forces Command (SFC), in charge of operating the delivery systems of the various corps of the Pakistani military. It is believed

that during crises the military will have a final say on nuclear matters, and, in order to maintain credibility, the C2 system will become decentralised in such situations.¹⁵⁷

Launch on Warning: The physical proximity between India and Pakistan means that the early warning time of each nation is within the several-minutes range (unlike the Cold War standard of ~30 minutes for an ICBM from the USSR to reach the United States and vice versa). This has vast ramifications on the nuclear dilemmas of each side, and therefore on nuclear posture and C2 and the severity of false-identification of early warning systems. CTBT-related Decision Making:

Before CTBT: Pakistan was in favor of a nuclear test ban, and was even party to the Limited Test Ban Treaty. However, much like in the case of the NPT, it did not want to join such a treaty unless India were to join it first.¹⁵⁸

CTBT Negotiations: Pakistan initially criticised the nuclear powers for the heavy-handed way in which they approached the negotiations. However, that quickly turned to a slightly more cooperative atmosphere after seeing that India gained a reputation as "stubborn" and became somewhat of an outcast in international circles due to its constant refusal to enter negotiations on arms control treaties. Wishing to avoid the status of a pariah, Pakistan joined the talks on the CTBT, but eventually--even though the final treaty was largely acceptable to Pakistan--refused to sign it before India does.¹⁵⁹

Post-1998: Following the 1998 tests, Prime Minister Nawaz Sharif tried to motion for Pakistan signing the CTBT. Again, much like in the case of the NPT, two groups stood out. The first claimed that signing the CTBT will benefit Pakistan politically and diplomatically, obtaining much needed international support for negotiations with India especially on the question of Kashmir. The opposing group

¹⁵⁴ Chakma, Bhumi. "The NPT, the CTBT and Pakistan: Explaining the non-adherence posture of a de facto nuclear state." *Asian Security* 1, no. 3 (2005): 267-284.

¹⁵⁵ <http://www.nti.org/learn/countries/pakistan/>; Zahra, F. (1999). Pakistan's road to a minimum nuclear deterrent. *Arms Control Today*, 29(5), 9.

¹⁵⁶ Narang, 2010.

¹⁵⁷ Bhimaya, 1994; Miraglia, 2013.

¹⁵⁸ Chakma, 2005.

¹⁵⁹ *ibid.*

warned that six tests is not enough to ensure a secure and reliable arsenal nor to replace testing with computer simulations. The French and Chinese cases were used for illustration as countries that needed extra tests to technically “afford” joining the treaty and banning tests, and even that only after getting assurances from the United States that simulation results will be shared between the nations. Being “locked” between the political-regional situation vis-a-vis India and the technical uncertainty of joining such a treaty following only 6 nuclear tests, Pakistan’s leaders chose not to enter the treaty. With international pressure waning following 9/11, and United States’ focus shifting away from the arms control regime, Pakistan has little reason to join the treaty since.¹⁶⁰

6. Prospects for Ratification

The developments and challenges highlighted above each have the potential to serve as opportunities to advance the ratification of the CTBT by China, India, and Pakistan. Indeed, the rise of tensions on the Korean peninsula as a result of the DPRK’s nuclear tests and their impact on the threat perceptions of neighboring countries underscore the important role that an entered-into-force CTBT could play in limiting vertical proliferation. Similarly, territorial disputes between India and Pakistan, India’s increasing conventional military strength (which has been further enhanced with the addition of unmanned aerial vehicles such as Predator Drones purchased from the United States), and Pakistan’s resulting nuclear doctrine, which permits the use of tactical nuclear missiles against Indian forces¹⁶¹, designate the Subcontinent as a potential nuclear “flashpoint”. Under these conditions, the US and Chinese governments should explore whether, as part of diplomatic discussions aimed at freezing Pyongyang’s nuclear program, an agreement could be reached

between all three countries to ratify the CTBT. Similarly, CTBT ratification by India and Pakistan would provide both countries with additional means of assuring that the other could not conduct a clandestine nuclear test and would serve to curtail a dangerous and costly nuclear arms race in the region.

However, given the impact of each of these security challenges on these three countries’ threat perceptions, there will likely remain significant opposition from some in the military establishment and policymakers, who will not perceive the present as an opportune time to ratify the Treaty or limit their capability to adapt to evolving security threats. Indeed, although the Chinese government has advocated for diplomatic talks with North Korea in response to its nuclear program, the US government under Trump appears unprepared to engage. Because Beijing has linked its ratification of the CTBT to that of Washington¹⁶², what should serve as a powerful impetus to advance CTBT entry into force—the DPRK’s nuclear tests—may instead become a missed opportunity. Additionally, India’s leadership has remained staunchly opposed to the CTBT since its opening for signature owing to the perception that it limits New Delhi’s sovereignty, and that of other states except the NWs states. In this respect, the potential for the Subcontinent to become a nuclear flashpoint may have little impact on underlying misgivings that have prevented ratification thus far.

Nevertheless, the entry into force of the CTBT would contribute significantly to both the national security of these three countries and their strategic objectives. China, for example, has upheld a nuclear testing moratorium since 1996, and the Chinese leadership have repeatedly emphasised their support of the CTBT. Chinese hesitation with regards to the treaty could stem from missteps or steps not taken after Russian ratification. Even so, China should consider how ratifying the CTBT could

¹⁶⁰ *ibid.*

¹⁶¹ <https://warisboring.com/the-worlds-most-dangerous-nuclear-flashpoint/>

¹⁶² http://www.europeanleadershipnetwork.org/the-entry-into-force-of-the-ctbt-the-chinese-perspective_1790.html

push the United States to take a diplomatic approach to the DPRK, which would serve its strategic interests far better than a military conflict on the Peninsula. For its part, India should consider how CTBT ratification could position it as a responsible nuclear power and help its bid for membership in the Nuclear Suppliers Group, a strategic objective it has pursued for a number of years. Doing so could also incentivise Pakistan to consider CTBT ratification in order to keep step with India, which would advance its national goals.

Further research should be conducted on the reasons for and significance of the international failure to enforce UN Security Council Resolution 1172 (passed unanimously on June 6, 1998 as a response to the nuclear tests by India and Pakistan) calling on Pakistan and India to stop their nuclear weapons development, and stop testing nuclear weapons. In addition, research on the reasons why India, Pakistan, and China have maintained moratoria on testing, and perhaps the specific role of US policy towards each country and how the ensuing “strategic chain” contributes to this, should be explored.^{163 164}

This paper has addressed and explored number of significant reasons why domestic stakeholders in each of these three countries may fail to view CTBT ratification as a rational response to the challenges they face. However, as described above, there exist compelling counterarguments in favor of ratification. As members of the CTBTO Youth Group, which is comprised of members from these countries who can address arguments

for and against CTBT ratification against this background from an informed perspective, we would do well to highlight the numerous practical arguments that tip the scale in favor of CTBT ratification under the present circumstances.

¹⁶³ <https://www.brookings.edu/research/the-strategic-chain-linking-pakistan-india-china-and-the-united-states/>

¹⁶⁴ Thank you to Professor Zia Mian of Princeton University for his peer-view comments which included the suggestion on assessing the specific role of US policy over the past two decades towards India (e.g. “Next Steps in Strategic Partnership” agreement of 2004, and 2013 U.S.–India Joint Declaration on Defense Cooperation, US investments in India, US-India nuclear deal, etc.) and US policy towards Pakistan after 9/11 (e.g. the war in Afghanistan, the 2004 US designation of Pakistan as a major non-NATO ally, US military and economic aid etc.) and what this has meant for the cost-benefit of policy makers in India and Pakistan with regard to the CTBT.

The State, Politics, Diplomacy and Barriers to CTBT's Ratification in the Middle East

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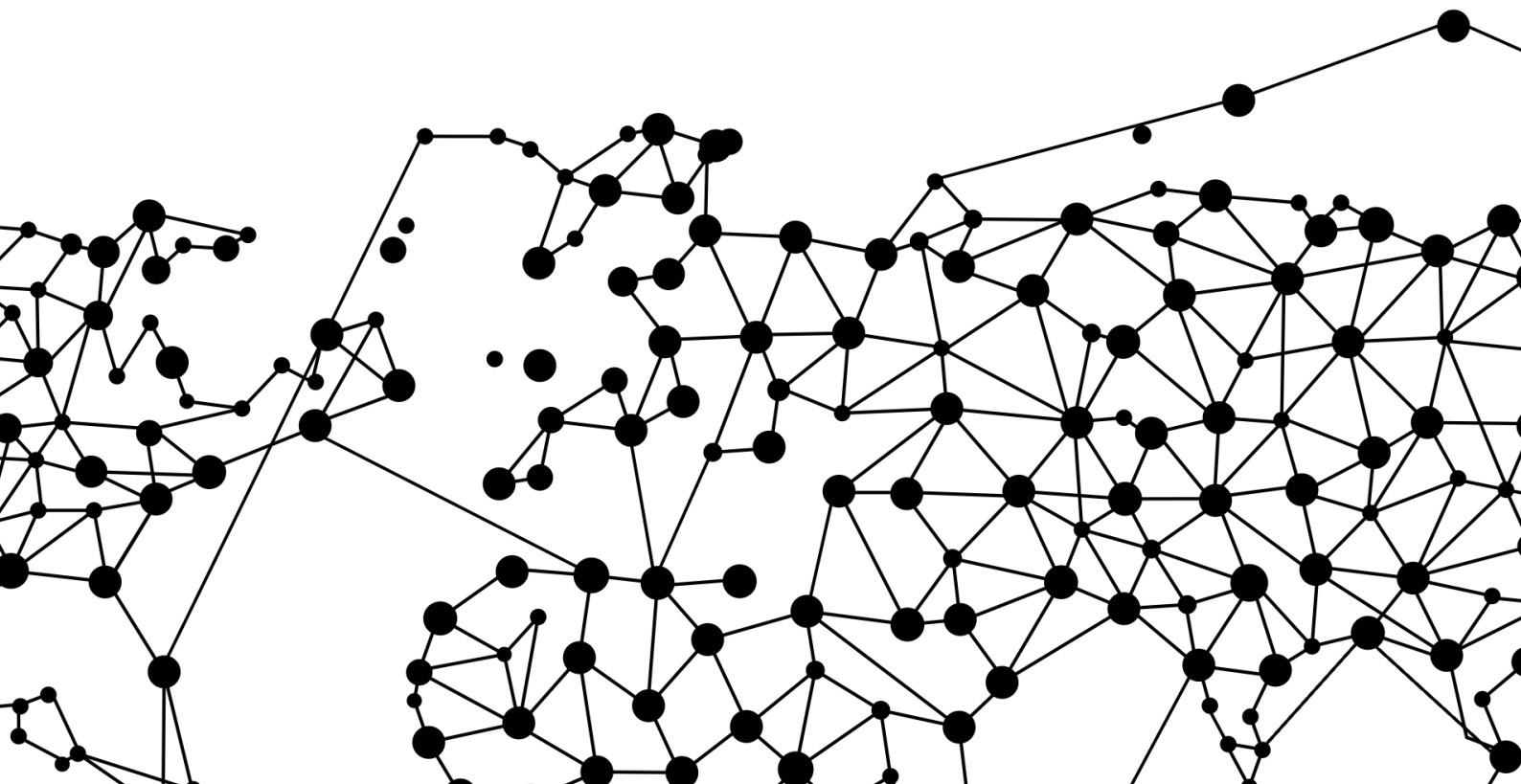


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1. Introduction

The objective of the 1996 Comprehensive Nuclear Test Ban Treaty (CTBT) is to bring an end to testing of nuclear devices, in all environments.¹⁶⁵ While the CTBT enjoys a broad based support among members of the international arms control community, it has failed to attract the number of ratifications needed for it to enter into force. The CTBT has a distinctive Entry-into-Force clause, in Article XIV which requires the ratification or accession of all 44 states listed in Annex II.¹⁶⁶ Three countries in the Middle East – Egypt, Iran, and Israel have signed the treaty, but have not yet ratified it. As complex subregional relationships characterise the region, it has become imperative to examine and analyse the historical background of this region, its geopolitics and challenges to ratification of the CTBT and also analyse the decision making structures and processes.

The international community has welcomed Israel's signature to the CTBT and its decision to sign in September 2004 an IMS Facility Agreement. Despite the decision by Israel to host IMS facility, the region still remains interlocked with lack of trust and mutual suspicious of each other and their commitment to the CTBT. Given the volatile nature of politics and regional instability in the Middle East, it is highly pertinent that all the three countries in the Middle East (Iran, Egypt and Israel) immediately make commitments towards CTBT's Entry into Force. However, little progress has been registered in this aspect even though there has been a strong support for the concept of establishing a Nuclear Weapons Free Zone in the region as early as 1974.¹⁶⁷

¹⁶⁵ "Objectives and Activities- Preparatory Commission for the Comprehensive Nuclear-Test-BanTreaty Organization". CTBTO Preparatory Commission, April 2007. Austria.

¹⁶⁶ As for September 2017, 166 states and 36 out of 44 "Annex 2" states has ratified the treaty. CTBTO Preparatory Commission, <https://www.ctbto.org/the-treaty/status-of-signature-and-ratification/>

¹⁶⁷ UNGA Resolution 3263(XXIX), December 9, 1974. The recent UNGA Resolution, A/RES/71/27, on the establishment of a nuclear-weapon-free zone in the region

In this paper, members of the CTBTO Youth Group has come together to examine the historical background and the societal fabric of the Middle East, analyse the geopolitical challenges to ratification of CTBT and throw light on the decision-making processes and factors that influences politics in the region, that strongly effects the CTBT's entry into force. The central thesis that runs throw the sinews of the paper is that the region is grappling with regional insecurities and mistrust and the lack of CTBT's ratification reflects just how no country is willing to step up to take the lead towards making firm commitment towards nuclear nonproliferation. This paper also suggests that the Middle Eastern countries pledge towards avoiding nuclear testing is a fundamental requisite for any future arms control agreement in the region.

2. Section I: The Historical Context and Societal Fabric of the Middle Eastern Countries

Iran

The Islamic Republic of Iran (Farsi: جمهوری اسلامی ایران), is a massive country both in population and landmass that is mysterious to most outsiders despite its high degree of influence on global geopolitics. For context, Iran has over 79.92 million inhabitants, and a land area of 1,648,195 kilometers squared, making it both the 18th most populous, and 17th largest country in the world. (Financial Tribune 2017) Its population and size makes Iran a major power in the Middle East, and a rival to the other major powers in the region such as Turkey and Saudi Arabia. Therefore, it is advantageous to not use rhetoric in support of these rival states when discussing the topic of the CTBT in Iran. Twelver Shia Islam is the state religion, and is followed by 95 Percent of Iranians, with remaining population following the minority faiths of Sunni Islam, Christianity, Judaism, Zoroastrianism or Bahai. (Martin 2003) This makes Iran the largest Shia state in

of the Middle East adopted without a vote, on December 5, 2016.

the world, and suggests that the support of Shia faith leaders may be useful in swaying the Iranian public to favour the CTBT. Iran is a highly ethnically diverse country composed of Persians (61%), Azeris (16%), Kurds (10%), and Lurs (6%) Central Intelligence Agency 2017). It is important to note that Iran is not an Arab nation and follows a different framework of decision making and regional cooperation. This means that existing relationships between Arab states and the CTBT would offer little leverage. Iran is an energy superpower, controlling the world's second largest proven gas reserves after Russia at 33.6 trillion cubic meters, and the world's fourth largest proven oil reserves at 153 billion barrels. (Roohalahe 2012)

Iran has a long history with many kingdoms and dynasties. The Islamic Republic of Iran was established in 1979 as a result of the Islamic Revolution against the western-installed, secular, and corrupt monarchy of Shah Mohamed Reza Pahlavi. (Axworthy 2014) The revolution, championed by Ayatollah Khomeini, then proceeded to adopt a religious democratic constitution, which has a unique status and is now the current political system in Iran.

Iran's nuclear energy programme has been drawing global attention since the onset of the 21st Century as the Islamic Republic of Iran continued to enhance its nuclear capabilities. On the 14th of July 2015, the P5+1, meaning the United States, China, France, England, Russian Federation, plus Germany, reached an accord with Iran, signing the Joint Comprehensive Plan of Action. This agreement, more popularly known as the Iran Deal, lays out the framework to monitor Iran's nuclear energy programme.

Egypt

The Arab Republic of Egypt (Arabic: مصر), is a transcontinental nation which straddles Asia and Africa. Egypt is the most populous country in the Middle East and North Africa region with a still growing population of 93.47T million inhabitants and is the 15th most

populous country in the world. (CAPMAS 2017) This makes Egypt the most populous state by far in the Middle East, and that gives Egyptians sizable influence when negotiating with regional powers. Despite Egypt's status as the world's 30th largest country at 1,001,450 square kilometers, the arid climate of its non-arable deserts concentrate the population almost exclusively along the massive Nile river delta. This in turn means that 99 percent of the Egyptian population lives on just 5.5 percent of the total available land. (Fouberg 2015) Egypt as a whole is fairly homogenous, with ethnic Egyptians composing 91 percent of the total population, the formerly vibrant Egyptian Jewish, and Egyptian Christian communities have seen significant reductions. (Central Intelligence Agency 2017) Sunni Islam is the predominant faith and is followed by 90 percent of the population, Orthodox Christianity is the second most popular at 9 percent of the population, and other faiths comprise the remaining 1 percent. (Liu 2012) The high levels of deference to faith in the nation of Egypt suggest that public advocacy for the CTBT from religious leaders may prove highly successful. With regards to energy, Egypt is both the largest consumer and producer of energy in Africa and is considered a rising power. Egypt commands significant clout due to its control over the Suez Canal, which connects the Mediterranean Sea and the Red Sea, and is a key artery for trade between East and West. (Suez Canal Authority 2017)

Egypt has a complex and turbulent history since its inception as a Republic in 1953 and has been under four major types of rule - nationalist, westernisation, Islamist, and militarist. Gamal Abdel Nasser was the first major president of the Egyptian Republic and advocated socialist nationalism, and the other Middle Eastern states came to view Egypt as the political bloc leader. Pending Soviet military intelligence that an Israeli attack was pending, Nasser proved the Arab-Israeli 6-Day War. (Churchill 2001) Following Nasser's death, Anwar Sadat opened the Egyptian Economy to private investment and switched Egyptian Cold War allegiances to the United

States. Sadat was also responsible for the historic Camp David Peace Accords between Egypt and Israel. (Quandt 2016) Following Sadat's assassination, he was replaced by Hosni Mubarak, who was forced to step down by the Supreme Council of the Armed Forces. Afterwards, the Muslim Brotherhood President - Mohamed Morsi was elected. (Harens 2013) Morsi's extreme unpopularity led to the Egyptian Revolution of 2013, when the military stepped in to control the chaos and General Abdel Fattah el-Sisi became the current President of Egypt.

Egypt does not have significant experience with Nuclear technology in the context of either an energy source or a weapon. It was only in 2016 that Egypt planned to build its first nuclear power plant with financial support from Russia. (Alsharif 2016) This historic lack of possession of nuclear technology indicates that the lack of Egyptian presence with the Comprehensive Nuclear Test Ban Treaty is likely attributed to geopolitical causes.

Israel

The State of Israel (Hebrew: **יִשְׂרָאֵל**, Arabic: **إِسْرَائِيل**) is a country with an unclear past and an equally unclear future, owing to the fact that both its borders and existence are still hotly contested topics in the Middle East and beyond. In 1947, the United Nations Resolution 181(II) called for the partition of the Mandate of Palestine into two independent Arab and Jewish states with the city of Jerusalem as an international city state. (The General Assembly 1947) The newly formed State of Israel was swiftly under the guerrilla Palestinian fedayeen, who refused to recognise the Partition. (Nasr 2007) The countermeasures adopted by the State of Israel were swift and brutal, as they soon proved the 6-Day War, after which they controlled nearly all of the former Palestinian Mandate in addition to the Sinai Peninsula. (Alteras 1993) This conflict between Arabs and Israelis has bled into modern day, as Hamas, the ruling Palestinian political party, trades blows with Israel. However, Israel has a highly significant upper hand, and is set on following

an expansionist policy to expand its borders. (Kershner 2014)

Israel has a moderate population of 8.68 million, of whom 75 percent are ethnic Jews and 21 percent are ethnic Arabs, with Christians and non-religious citizens occupying the remaining 4 percent. (Grave-Lazi 2017) The two largest religious are Judaism at 75 and Islam at 18 percent. (Central Intelligence Agency 2017) Despite its turbulent history, Israel has risen to become a premier hub for economic development, boasting the highest Human Development Index in the Middle East and 19th overall in the world. (United Nations Development Programme 2017) Israel's high levels of development suggest that efforts to promote the CTBT may benefit from technology based solutions. As an example, digital marketing campaigns educating the public about the CTBT would more easily reach Israelis than in less developed nations.

Since the Dawn of the 20th Century, Israel is widely believed to not only have nuclear weapons, but also biological and chemical Weapons of Mass Destruction (U.S. Congress, Office of Technology Assessment 1993). These assumptions are partially because since the Gulf War of 1991, all homes in Israel have been required to have a reinforced security room impermeable to chemical and biological substances. The State of Israel maintains a strict policy of deliberate ambiguity towards nuclear capabilities. This indicates that a high level of trust must be built with the State of Israel before even discussing the Non Proliferation Treaty.

3. Section II: Understanding the Barriers to Ratification of the CTBT in the Middle East

Iran

Much like the case of Egypt, Iran's objections to the ratification of the CTBT can be traced back to the security dynamics in the Middle East. As will be evident, some of the factors that act as barriers to Egypt's ratification are

also relevant in the context of Iran. Akin to the case of Egypt, Iran considers Israel's clandestine nuclear weapons programme as an issue of security concerns in the region. Just like Egypt, even Iran calls Israel to reveal its nuclear programme and join the NPT.

Iran also remains skeptical to ratifying the CTBT given its experience with the NPT. The support given by "the west" to countries that are not parties to the NPT compared to the extensive sanctions to which Iran has been subjected for allegedly not being in compliance with its NPT obligations has resulted in mistrust of other non-proliferation treaties and west-influenced forums and organisations. In fact, Iran perceives the pressure on its leadership to sign the CTBT as western countries' "double stands on nuclear weapons."

There are some speculations in the media that another reason for Iran to avoid joining the CTBT may be its own aspirations to be a regional leader. As viewed in the Middle East, Israel's nuclear programme is considered a currency of power, which makes the balance of power lopsided and favourable to Israel. This perceived favourable balance for Israel diminishes the possibility of Iran enacting its aspiration leadership role in the region (regardless of Iran's conventional superiority), in the long term. Therefore, its presence outside the NPT circle may make it tough for Iran to forgo its own options in the long term.

Finally, Iran's choice to remain outside the CTBT is also motivated by the difficulty of selling the treaty domestically. The narrative that has been created within Iran leaves little scope for a flexible approach towards signing the CTBT.¹⁶⁸ The public opinion about the west, specifically the US is negative in the country.¹⁶⁹ What makes the situation more

complicated is the increasing mistrust between the US and Iran, especially after Donald Trump came to power. Iran continues to wait for the returns of the Joint Comprehensive Plan of Action (JCPOA) and with the recent overtures from Washington D.C., Iranian leadership feels that the US is "seeking excuses" to destroy nuclear deal.¹⁷⁰ Given these dynamics, even if the leadership is willing to go ahead and sign the treaty, it will witness severe backlash from the religious leaders, citizens etc., especially if countries such as the US or Israel do not ratify the treaty.

Egypt

Egypt's security concerns largely emanate from Israel's clandestine nuclear programme. For most part of their history, Egypt and Israel had a complex history that was characterised by political disputes and conflicts (for instance, 1948, 1956, 1967, and 1973). However, their relations have remained peaceful after Egyptian president Anwar Sadat visited Israel in 1977. The visit was followed by negotiations that culminated in the Egypt-Israel Peace Treaty, which was officially signed on 26 March 1979.¹⁷¹ Recent developments include greater security cooperation between Hamas, Egypt and Israel. In early 2017, Hamas agreed to stop smuggling weapons or infiltrate fighters between Gaza and Sinai, in addition to not allowing violence extremists to use Gaza as a safe haven to launch attacks on Egyptian military.¹⁷² This arrangement between Hamas and Cairo also addresses Israel's security concerns because it will "relieve the humanitarian distress in the Gaza Strip" and

¹⁶⁸ Elaboration of this narrative here helps the reader who is not familiar with the situation inside Iran

¹⁶⁹ Nancy Gallagher, Ebrahim Mohseni, Clay Ramsay, Iranian Public Opinion on the Nuclear Negotiations, Center for International and Security Studies at Maryland, June 2015, <http://cisssm.umd.edu/publications/iranian-public-opinion-nuclear-negotiations>

¹⁷⁰ Iran: US 'seeking excuses' to destroy nuclear deal, Times of Israel, September 15, 2017, <https://www.timesofisrael.com/iran-us-seeking-excuses-to-destroy-nuclear-deal/>

¹⁷¹ Alan Taylor, On This Day 36 Years Ago: The Signing of the Egypt-Israel Peace Treaty, The Atlantic, March 26, 2015, <https://www.theatlantic.com/photo/2015/03/on-this-day-36-years-ago-the-signing-of-the-egyptisrael-peace-treaty/388781/>

¹⁷² Ofir Winter, Shlomo Brom, Israel and the New Leaf in Egypt-Hamas Relations, INSS Insight No. 898, February 16, 2017, <http://www.inss.org.il/publication/israel-new-leaf-egypt-hamas-relations/>

“weaken Hamas’s motivation to embark on a military conflict with Israel.”¹⁷³

Nonetheless, in view of the complex relationship between Israel and Egypt, Israel’s nuclear weapon programme complicates the situation. Israel being the only country in the region with a capable nuclear programme and non-participant of the Non-Proliferation Treaty (NPT) is a source of great concern for Egypt, in terms of traditional security. Egypt places its decision to ratify dependent on Israel’s decision to join the NPT. At the same time, Egypt believes that even if Israel ratified the NPT, it will still continue to have a nuclear programme.

It is worth pointing out that Egyptian officials have periodically asserted their support for the principles of the CTBT. Even during the CTBT negotiations, Egypt was an active participant. Egypt’s representative chaired one of the negotiation’s working group. As an NPT non-nuclear weapons state, Egypt supports the principles and objectives of the CTBT. Egypt is a signatory state of the Pelindaba Treaty which already refrains, in good will, from testing nuclear explosive devices.

Egypt’s stand on CTBT is also connected with the bargaining option for a Middle East Nuclear Weapons Free Zone (MENWFZ), which implies the denuclearisation of the Israeli programme and their accession to the NPT at non-nuclear weapons state. During the CTBT Entry-Into-Force Conference in New York (in 2005), Amr Aboul Atta, a delegate from Egypt reasserted his country’s support for a Nuclear Weapons Free Zone in the Middle East and other relevant measures. Expressing his government’s concern, Atta stated, “we cannot regard the treaty as a secluded legal instrument apart from our common objectives to achieve nuclear disarmament and the universality of non-proliferation. Hence Egypt calls for the

achievement of the universality of both the NPT and the CTBT together.”

Considering a number of factors (such as geography, history, cultural standing, etc.), Egypt’s conception about its role in the region was that of a leader. Therefore, Israel’s dominant position, which in the regional viewpoint is also enhanced by its nuclear weapons programme, undermines the historical leadership standing that Egypt desires to perform. That Egypt unilaterally signed the NPT in 1981 and Israel has still not only adds to Egypt’s anxieties regarding Israel’s capability and power in the Middle East. As a result, Egypt is skeptical about ratifying the CTBT.

Apart from these factors, Egypt also wishes to utilise its decision to ratify the CTBT, as a bargaining chip. It believes that not ratifying the treaty can help attract international attention towards Egypt and the region, and also result in possible pressure on Israel to join the NPT and mitigate nuclear-related activities, thus allaying Egypt’s fears and concerns.

Israel

While in the recent years, Israel has strengthened its commitment towards the CTBT. At present, Israel hosts two auxiliary seismic stations and one radionuclide laboratory as part of the IMS network. Although these developments have been positive reinforcement towards peace and security in the region, Israel’s decision to hold out on the signature and ratification of the Treaty has created considerable concern among the other Middle Eastern countries.

One of the frequent reasons offered to suggest Israel’s reservations towards taking the final step of ratification is that Israel’s political leadership fears intrusive activities by inspectors and scientists of the CTBTO and international community that may gather intelligence on nuclear activities unrelated to the treaty and in contravention of its confidentiality provisions. It is for this reason,

¹⁷³ Ofir Winter, Shlomo Brom, Israel and the New Leaf in Egypt-Hamas Relations, INSS Insight No. 898, February 16, 2017, <http://www.inss.org.il/publication/israel-new-leaf-egypt-hamas-relations/>

Israel has been seeking that detailed rules on the use of maps, potentially sensitive information, and third-party equipment for treaty verification is incorporated by the CTBTO leadership while dealing with the Middle Eastern countries. Additionally, Israel is also concerned about the processing of information derived from its IMS network by the CTBTO and wishes strict confidentiality provisions of all the data that is gathered from the IMS network that Israel hosts.

Since the 1990s, Israel has been supportive of the CTBT and its principles. Israel took an active part in the CTBTO Preparatory Commission activities that include the discussions on the treaty's on-site verification measures. As part of the CTBTO international monitoring system, two Seismic (Auxiliary) stations are located in Israel. In general, Israel considers three factors in regards to the CTBT ratification: completion of the inspection system, including rules governing the "onsite inspections" that prevent their misuse by other states; Israel's right to an equal status in the framework of the treaty's institutions that determine policy; and regional concerns, for example, Israel's declaration at the September 2009 conference to promote the CTBT's entry into force.¹⁷⁴

4. Section III: Understanding the Decision Making Process in the Middle East

Iran

Iran was one of the countries that signed the CTBT when it was opened for the signature on 24th September 1996. Unfortunately, it continues to lack Iran's ratification more than 20 years. In general, the process and the nature of decision-making directly lead to confidence building, and in this direction the entry-into-force of the CTBT is a powerful tool for trust building in the region and world.

¹⁷⁴ Bar, Alon. Israel and the CTBT. Strategic Assessment, Volume 13, No. 2, August 2010. Institute for National Security Studies (INSS).

Additionally, Iran's CTBT ratification will smoothen the functioning of Joint Comprehensive Plan of Action (JCPOA). In Iran, the supreme leader is at the highest position in the process of decision making in Iran. The government is a combination of several divisions which includes executive, legislative, religious, judicial, and military.

Egypt

Most importantly, it is worth noticing that Egypt has a proven record of outstanding global leadership; a) UN leadership, b) IAEA leadership. Former UN Secretary General Mr. Boutros Boutros-Ghali and former Director General of IAEA Nobel Laureate Dr. Mohamed El Baradei are both Egyptian. Based on this positive ground, it can be anticipated that Egypt can play a significant role in the treaty's prompt entry into force by ratifying the CTBT as Egypt signed the treaty on a few days after it was opened for the signature.

In the decision making process, according to the Washington Institute's policy analysis,¹⁷⁵ in Egypt, there are three major centres of the power: (a) state institutions: responsible for security, law, foreign affairs, and economics, (b) executive category: comprises of president and cabinet, and (c) non-state societal actors: includes media, business communities, religious institutions, political parties, and NGOs. Similarly, another study¹⁷⁶ states that it seems too difficult to identify a single power in Egypt because executive and legislative powers are also divided between interim administration and military.

Each and every section of society is either knowingly or unknowingly an integral part of the decision-making process. But, in general, the representatives of the societies constituency-wise, i.e. members of parliament,

¹⁷⁵ Adel El-Adawy, "Egypt's Multiple Power Centers", The Washington Institute, Policy Analysis, POLICYWATCH 2194, January 17, 2014.

¹⁷⁶ Primoz Manfreda, "Current Situation in Egypt", July 28, 2017, <https://www.thoughtco.com/current-situation-in-egypt-2352941>

are the central players in policy making, law making, and further decision making on any state-related concerns. Especially, nuclear matters are greatly driven by the politics and last decision on nuclear issues is reserved by the politicians after having in depth discussions with the experts of the respective domain. Political will plays a significant role in nuclear disarmament and nuclear non-proliferation. The share of a stakeholder's contribution in facilitating governments varies according to region as well as nature of the political structure of a country in terms of transparency and participation from the grassroots level. Due to rapid advancements in science and technology, it is highly recommended that scientists and technologists are included in policy-making geared towards global peace and security.

Israel

What makes Israel a unique nuclear weapon state in the world, is its stand which neither formally accepts nor denies its nuclear weapon capabilities, thus leading to a state of nuclear ambiguity. To-date, the state of Israel has never ratified any nuclear nonproliferation treaty which can bring Israel within the ambit of nuclear disarmament and non-proliferation realm. Apart from assurances from the Israeli leadership, not much has been gained by the international community. The Comprehensive Test Ban Treaty was signed by the Israeli government as early as 1996 but it was never ratified by the Knesset. Since the negotiation of CTBT, Israel is represented in the organisation by an official representative whose main task is to take part in building a verification regime for the treaty. There are multiple reasons which have shaped the decision making process and prevented the State of Israel from ratifying the CTBT. They are as follows:

It will not be wrong to say that the Israeli nuclear capability has decreased the regional security threat for Israel. Since Israel's creation from the British mandate of Palestine in 1948, its Arab neighbors have been hostile towards its existence. Israel has been involved in

multiple hostilities with its neighbors because of this reason. Therefore, its nuclear ambiguity policy is deemed to have served the country as a means of deterrence. Shimon Peres, the late President and Prime Minister of Israel stated, in reference to effective deterrence, that it may lead to Oslo peace accord rather than a Yom Kippur War (the Israeli name for the 1973 Arab-Israeli War).

David Ben Gurion, the first Prime Minister of Israel, is also the founding father of Israel's nuclear project. The Israeli leadership may differ in ideologies but they have a sole aim that is, the survival of their country. So leaders like Ariel Sharon, Shimon Peres, Ehud Barak, Moshe Dayan etc. despite of their ideological differences are supportive towards nuclear ambiguity. A consensus among Israeli leadership over the years has been to maintain it.

Israel is known for its vibrant multiparty system where political parties across different ideological spectrums have been represented. But in the case of nuclear defense, governments have always been supportive while remaining skeptical towards the international disarmament regime. In turn, there is a lack of internal pressure for the ratification any nuclear non-proliferation treaty. Though there are few political parties who have been supportive and have shown positive gestures (ex. the Israeli Communist Party "Hadash" which has actively supported the ratification of the CTBT), it is unfortunate that they hold a small number of seats in the Israeli Knesset.

The United States has always played a significant role in shaping Israel's nuclear policy. The Israeli lobbies in United States have always been an important factor to shape the White House's policy towards the Middle East. In fact, it is said that Israeli nuclear status is a Golda-Nixon understanding. According to which Golda, the former Israeli Prime Minister reached confidential understanding with the President of the United States that as long as Israeli would never declare its nuclear status, the United States would turn a blind eye and

would allow Israel to maintain it. Further, Israel receives aid from the United States, despite legislation (Symington Amendment/Arms Export Control Act) which prohibits the American government from granting aid to countries who receive nuclear enrichment technology outside of international controls.

5. Section IV: Analysing the Factors that Influences Decision Making Processes in the Middle East

Iran

Iran's ratification of the CTBT could be the step to unlocking ratification by other states such as Israel and Egypt.¹⁷⁷ As pointed out in the decision-making section, Iran signed the CTBT as soon as it opened for signature. The current nuclear program in Iran is being rolled back under the Joint Comprehensive Plan of Action (JCPOA). Iran's nuclear technology and atomic energy is still, simply put, a source of "[legitimacy] for the regime domestically" and "has become the glue that has reinforced the solidarity of the nation."¹⁷⁸ Furthermore, nuclear technology gives the Iranian state greater status internationally.¹⁷⁹ In Iran, the political elites in the Supreme National Security Council (SNSC) determine the national security policies.¹⁸⁰

¹⁷⁷ "UN Official: Iran Closest to Ratify CTBT," *Financial Tribune*, January 31, 2016, <https://financialtribune.com/articles/national/35379/un-official-iran-closest-to-ratify-ctbt>; "Israel links ratifying nuclear test ban to Iran ties," *Reuters*, June 24, 2015, <http://www.reuters.com/article/us-israel-nuclear-ctbt-iran/israel-links-ratifying-nuclear-test-ban-to-iran-ties-idUSKBN0P42DR20150624>.

¹⁷⁸ Shahrman Chubin, "Nuclear Energy Rationale, Domestic Politics, and Decision Making," *Iran's Nuclear Ambitions* (Washington, D.C.: Carnegie Endowment for International Peace, 2016), 26.

¹⁷⁹ For decisions on how nuclear programs, even peaceful nuclear programs and restraint from developing nuclear programs offer normative symbol for a state's status of modernity and identity, see Scott Sagan, "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb," *International Security*, Vol. 21, No. 3, Winter 1996/1997, pp. 54-86. https://fsi.stanford.edu/sites/default/files/Why_Do_States_Build_Nuclear_Weapons.pdf

¹⁸⁰ Chunbin, "Nuclear Energy Rationale, Domestic Politics, and Decision Making," 31.

The ideological difference between the factions is not so much about whether Iran should have a nuclear weapons, but more about how and by which means to get the program.¹⁸¹ The ideological conservatives shun away from dealing with the west, while the pragmatic conservatives emphasise the importance of normalised relationships with the rest of the international community. By extension, basic distinctions also exist between those who want to accommodate the West and those who wish to challenge it by pursuing the course followed at the beginning of the founding of the Islamic Republic.¹⁸²

The perception of threat is more tied to state leaders' political and ideological interests rather than the actual level of threat present in the surrounding security environment. The international community should work actively with moderate state leaders to de-couple nationalism and its nuclear technology, thereby giving rationale to a normalised relationship between the Islamic Republic and the West.

Egypt

Egypt has been a positive supporter of the objectives of the CTBT. It called the CTBT a "fundamental instrument in the field of nuclear disarmament and nonproliferation." However, regional security concerns remain the biggest factor in Egypt's decision making. The major security concern of Egypt is Israel's ambitious nuclear arsenal. The arms control strategy of Egypt has been designed around eliminating all security asymmetry. Therefore, Egypt has

¹⁸¹ The conservatives believe that an enhanced nuclear capability would affect this regional role and that "the enemy would not like Iran to play such a role." See Hasan Rowhani, quoted in "Iran Needs to Counter 'Multi-Dimensional' Threat from West," *IRNA*, January 14, 2006. On the impact of an advanced nuclear program in the region, Rowhani comments: "They [the United States] believe that Iran's standing will change in the region if it acquires the capability to enrich uranium," something they wish to prevent. Quoted in "Iran's Regional Standing Is Source of Concern to USA—Former Security Chief," *Iran Fars News Agency* (Tehran), December 15, 2005, in *BBC Monitoring*, December 16, 2005.

¹⁸² Chunbin, "Nuclear Energy Rationale, Domestic Politics, and Decision Making," 31-36.

been based its decision of ratifying the CTBT largely on Israel's accession to the NPT. This is because peace can only be achieved through equality, where hegemony cannot be practiced by any country.

Egypt remains reluctant to ratify the CTBT because it is seen as a bargaining chip to finally achieve a Middle East Nuclear Weapons Free Zone (ME NWFZ). Changing rhetoric, even threatening to reopen its nuclear choice, Egypt has been trying to gain more leverage in this ever-lasting negotiations toward a ME NWFZ. It is especially the case when no concrete measures had been taken by Israel and Iran. It seems that the more eager Egypt is to push for a change, the more so the CTBT is viewed as a bargaining instrument of a promising a ME NWFZ.

If a reciprocal and simultaneous manner cannot be expected, a compromised way can be explored to see whether Egypt is willing to ratify the CTBT before Israel and Iran. By acting this way, Egypt does not only clearly demonstrate good regional leadership, but also brings the CTBT one concrete step into coming into force, resulted from which the pressure from International community will be a further driving force in reaching the end goal that matters to them — a ME NWFZ.

One reason holding the realisation of a ME NWFZ is the emphasis on political settlement with neighbouring countries. As an incremental step, Egypt could play a bigger role in developing a treaty or framework that does not require all parties to be onboard straight away and/or only address a critical part of the concerns. Previous experiences could be drawn from the constructive role of Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC) in the preparation of Latin America NWFZ. A more detailed proposal was raised by Egypt's Mohammed Kadry Said, who outlined a three-phase plan for establishing such a zone.

Therefore, since Egypt has committed to refraining from conducting nuclear test by signing the Pelindaba Treaty, once Egypt

could delink the CTBT with ME NWFZ, it is more likely that Egypt will be convinced to retain its position in the CTBT and take incremental steps towards the ratification of itself and other countries in the region.

Israel

Israel signed the CTBT treaty in 1996 a day after the treaty opened for signature. Despite the support from Israel, the ratification—as Israeli Prime Minister Benjamin Netanyahu said—is "dependent on the regional context and on the right timing." There is, however, also no official evidence that Israel has ever carried out a nuclear test. A possible zero yield or implosion test was detected by a U.S. satellite near the Indian Ocean surface on November 2, 1966, but this was never confirmed. Based on these, the established belief in Israel remains to be that "nuclear ambiguity" policy will remain essential to guaranteeing its national security until an extended period of peaceful relations in the Middle East allows for the establishment of a NWFZ.

The sense of ambiguity prevented a confrontation with the U.S. If it was made publicly and unequivocally known to the U.S. that Israel had nuclear weapons then as a sponsor state of Israel and a signatory state to the NPT, the U.S. would be under international normative pressure to undertake negotiation to end Israel's nuclear programme. It also provides the U.S. with incentives to sell and supply Israel with conventional weapons.

Israel's position in the global nonproliferation regime is not necessarily a downside, but an incentive for Israel to join the CTBT. Given that it cannot join the NPT as a nuclear weapon state under the treaty's criteria, opposed to the Fissile Material Cutoff Treaty, and remain outside of both of the Chemical Weapons Convention (CWC) and the Biological Weapons Convention (BWC), Israel's ratifying the CTBT could be a relatively simple way out from the International pressure and critique.

Above are some of the influencing factors of Israel's non-ratification status on the CTBT despite having never tested nuclear weapons. Indeed, it has been debated amongst U.S. policymakers whether Israel could be the first to "introduce" nuclear weapons to the Middle East if it has never even tested them.¹⁸³ Like the other states in the Middle East, the difficulties to Israel's ratification of the CTBT lie in the entangled geopolitical conflicts. It is necessary to have a gradual buildup of strategic trust between the major power players – Egypt, Iran and Israel, to name a few — in order for there to be a political open that allows for the signing of the CTBT.

6. Conclusion

To conclude, it must be noted that all the Middle Eastern countries understand the need for a Middle Eastern Nuclear Weapons Free Zone is highly important for the peace, security and stability of the region. However, there needs to be a greater appreciation for the fact that the first logical step before discussions of a nuclear weapons free zone is the commitment of all the 3 Annex 2 countries in the Middle East to ratify the CTBT. The Executive Secretary, Dr. Lassina Zerbo mentioned that both Iran and Israel signed the CTBT in 1996 and the ratification of the CTBT is a low-hanging fruit towards the goal of nuclear non-proliferation and disarmament. Dr. Zerbo has also stated that both Israel and Iran can make a huge difference for this treaty as both the countries can take leadership and show *carte blanche* to the world to say that they have together decided to ratify the CTBT.¹⁸⁴ Therefore, arguably a nuclear test-free zone is an achievable step toward the much more difficult goal of establishing a nuclear-weapons-free-zone in the Middle East. While there are no shortage of conflict and mutual hostility in the Middle East, ratification

of the CTBT by key states in the region—Egypt, Iran, and Israel—will be a game changer towards strengthening regional security. Efforts towards accelerating the CTBT's Entry into Force will help create the conditions in the long run that are necessary for the realisation of a Middle East zone free of nuclear weapons and other weapons of mass destruction. This has been the long-sought goal of Egypt, other Arab states and this is a goal that can be accomplished. However, to bring peace and stability in this region would require a marked shift in the traditionalist mindset of viewing each other with suspicion and mutual hostility. Instead all the three countries will need to come closer to bring the region into the nuclear nonproliferation mainstream.

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¹⁸⁴ 'Iran, Israel Could Ratify the Nuclear Test Ban Treaty: CTBTO Chief', The Hindu, January 29, 2016, available at <http://www.thehindu.com/news/international/Iran-Israel-could-ratify-nuclear-test-ban-treaty-CTBTO-chief/article14026695.ece>

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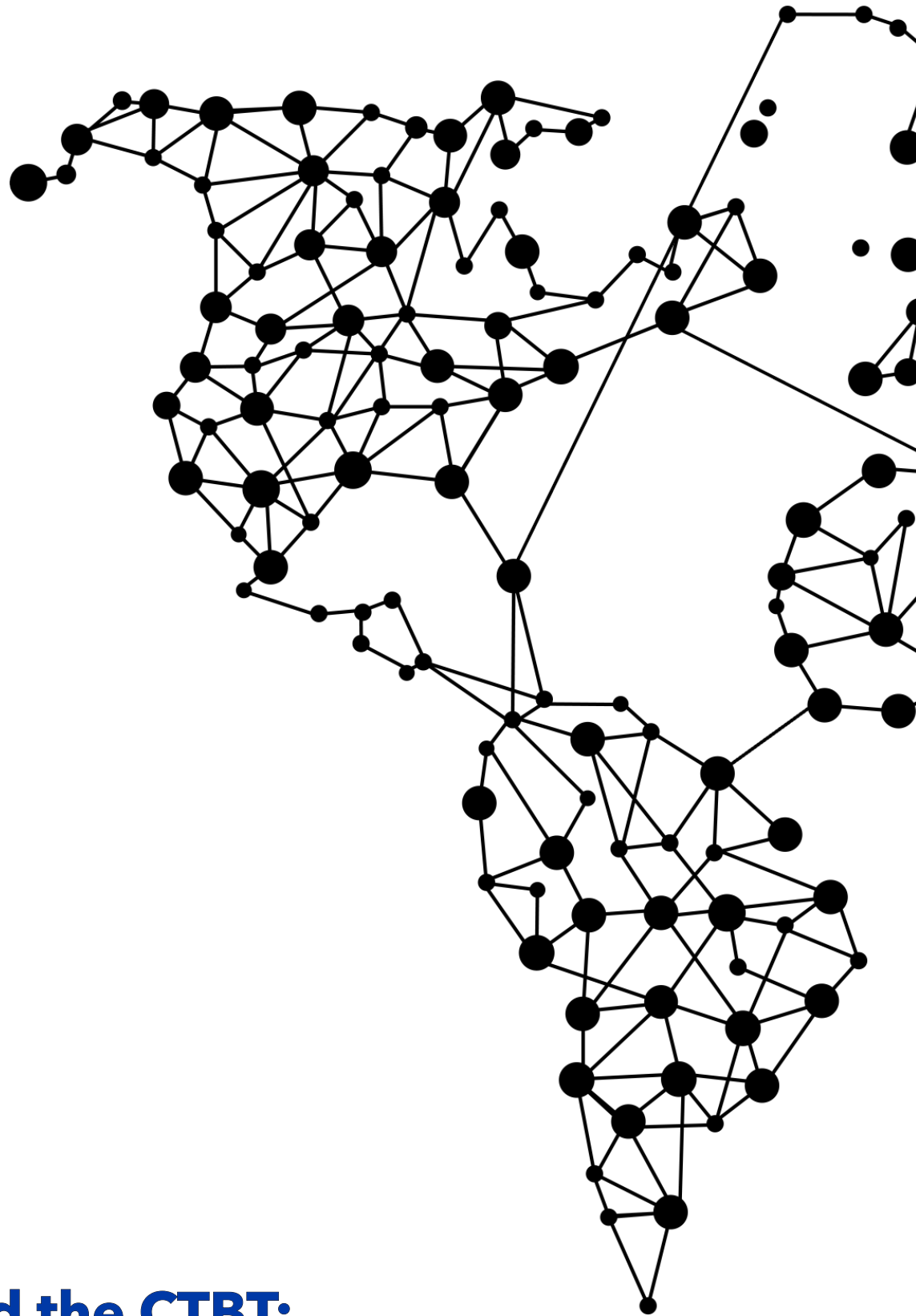
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The US and the CTBT: Paving the Way for Ratification

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Abstract:

The Comprehensive Test Ban Treaty (CTBT), one of the most widely subscribed to arms-control treaties, has remained stuck in a prolonged state of limbo for almost two decades now. The problem continues to persist due to the political processes in some countries, and the 'after you' policy adopted by others. One of the first blows against the entry-into-force of the CTBT came in October 1999, when US Senate voted to reject ratification of the treaty. The goal of this paper is to broadly analyse the future prospects for US ratification of the CTBT. The first part of this paper provides a systematic discussion of the historical efforts to prohibit nuclear weapons tests and achieve a test ban agreement at the global level. Many geopolitical and technical challenges have prevented progress on the CTBT over the years, making it harder to close the door permanently on nuclear testing in all spheres. Drawing on extensive research and our interviews of leading nuclear nonproliferation experts, this paper explores the nuclear decision-making processes in the US with specific relevance to the CTBT. We also look at both endogenous and exogenous factors influencing decision whether or not to ratify the treaty. Lastly, this paper lays out a multi-pronged plan to influence the key decision makers as well as shaping the public opinion in favour of the CTBT.

1. Introduction

Standing on the brink of a potential nuclear confrontation between North Korea and the United States, the stakes are higher than ever before to reassess nuclear policies that bear significant impact on international security. While in 1996, Bill Clinton was one of the first of 72 leaders to sign the proposed Comprehensive Test Ban Treaty; the United States still continues to be one of the eight Annex II countries whose congress has consistently failed to ratify the treaty. Even though the United States has not conducted a nuclear weapons test since Sept. 23, 1992, the largely republican opposition has been very effective in blocking any attempt of treaty ratification. Their success has largely been premised on arguments linked to national security, lack of verifiability and rising international threats from adversarial states as well as advances in technology. However, the substantial technical advancements since the last Congress vote down of the treaty in 1999, significantly reduce the doubts that were once associated with the U.S. ratification.

An influential 2012 high-level, nonpartisan report¹⁸⁵ by the National Academy of Science summarises that: "Provided that sufficient resources and a national commitment to stockpile stewardship are in place, the committee judges that the United States has the technical capabilities to maintain a safe, secure, and reliable stockpile of nuclear weapons into the foreseeable future without nuclear-explosion testing. ... As long as the United States sustains its technical competency, and actively engages its nuclear scientists and other expert analysts in monitoring, assessing, and projecting possible adversarial activities, it will retain effective protection against technical surprises. This conclusion holds whether or not the United States accepts the formal constraints of the CTBT."

¹⁸⁵ National Research Council. 2012. The Comprehensive Nuclear Test Ban Treaty: Technical Issues for the United States. Washington, DC: The National Academies Press. <https://doi.org/10.17226/12849>.

This report conclusively addressed many of the technical concerns raised by the opposition of the treaty in 2012 however, any tangible progress on the congressional front has been slow to come. The goal of this paper is to highlight those key challenges to the treaty verification from different perspectives. It will also produce recommendations that become a part of a multipronged strategy to address those challenges targeting difference national and international stakeholders. While numerous states including the United States has said no to nuclear testing, it is critical that no is converted into a never.

2. Historical background: Contextualization of the United States and the CTBT

This year marks the 18th anniversary of the rejection of the Comprehensive Test Ban Treaty (CTBT) by the US Senate in October 1999. During these 18 years, repeated efforts have been made to outlaw the testing of nuclear weapons. But the treaty still remains in a state of limbo. The failure of the US to ratify the test ban treaty in 1999 struck a major blow to the existing global nonproliferation disorder. Historically, the United States has been a key advocate of agreements to ban nuclear testing. President Eisenhower and his successor John F. Kennedy devoted a great deal of effort to negotiate a comprehensive ban but could not succeed because compliance with the CTBT was unverifiable at that point in time. The early signs of opposition to the CTBT emerged in the early 1980s because of verification concerns.

To assess the US stance on nuclear testing, it is incumbent upon scholars to examine the genesis of the rationales which have historically shaped US policy, and its potential contribution towards the present discourse. The US stance and rationale on nuclear testing and proliferation was shaped by events which preceded 1991 with the dissolution of the Soviet Union and its reservations on CTBT which need to be taken into account in light of events post 1996.

1991-1996

The United States conducted the first nuclear test called the 'Trinity', in 1945 which prompted the USSR to follow suit. Part of the decision to test can be attributed to the geopolitical environment in Europe as well as the time period of the 1930s which witnessed many novel discoveries regarding the nature of atoms. In addition, the rise of fascist governments across Europe and the palpable fear of states such as Nazi Germany gaining access to nuclear weapons, eventually resulted in transfer of nuclear technology to the US military in 1942. The project thus became known as the 'Manhattan Project'. Understandably, the Soviet Union in view of an existential threat from the US decided to test in 1949 and by the mid-1950s both countries were conducting nuclear tests as a way of deterring one another. In 1963, the LTBT or the Limited Test Ban Treaty was negotiated by the Soviet Union, the United Kingdom and the United States and entered into force which limited nuclear testing to the atmosphere yet underground tests were still permitted. Five years later and just six years after the Cuban Missile Crisis, there were talks regarding a comprehensive, all-encompassing test ban treaty, but a lack of global consensus on the issue resulted in failure to reach an agreement. The US and the USSR eventually signed a bilateral treaty known as the Threshold Test Ban Treaty which established a limitation where both countries would not conduct nuclear tests producing a yield of more than 150 kilotons of TNT.

In the years to follow, both the Soviet Union and the United States had cooperated in ensuring that a robust, comprehensive and all-encompassing verification regime is put into place. Much of this took place after the dissolution of the Soviet Union in 1991 with primary examples such as the 1992 nuclear test moratorium. However, prior to the early 1990s, the geopolitical environment of the world was defined by the Cold War rivalry with both the United States and the Soviet Union embroiled in proxy warfare as well as conflicts which were more overt in nature such as the

1979 Soviet Afghan war, defined by the involvement of numerous governments, allies of both the Soviet Union and the United States as well as local proxies. Four years prior to the treaty being open for signature, the United States had observed a unilateral moratorium on nuclear testing¹⁸⁶ which was introduced as a direct response to the testing moratorium introduced in USSR in 1991 by Mikhael Gorbachev. The premise of this moratorium was that the US would not conduct a nuclear weapons test to deter nuclear attacks on itself, its allies or partners. This moratorium is significant as it comes straight after the end of a heightened state of tension, protracted state of conflict and rivalry with the erstwhile Soviet Union. The US signed the treaty in 1996, however prospects for US participation in global efforts to prohibit nuclear testing were stalled when in 1999, the Senate refused to play an advisory role on the subject¹⁸⁷.

1996-1999

It took the Clinton Administration a very long time to garner support to convince the Senate for its eventual ratification¹⁸⁸. This state of wrangling within the US Congress highlights the intricacies of ratification of the CTBT, where the US initially took a far clearer stance in 1992 towards banning nuclear testing on the premise of security, to ward off threats to its mainland as well as its allies. The central question thus lies in why since 1992 when the US cited higher moral ground and banned nuclear testing as an act of defense, did the decision to ultimately stall the prospect of ratification in 1999 take place. In the US case, domestic politics can be treated as a driving factor for stalling prospects of ratifying a treaty to ban nuclear testing as much as it deals with

foreign policy decisions. This argument is supported by historical facts given the Republican decision to stall progress on ratification of the CTBT.

In 1999, the Democrat government led by President Bill Clinton faced a flurry of criticism from the opposition on the very subject of non-proliferation and banning nuclear testing. The opposition justified its stance in 1999 with a view that the US entering into a treaty which was still in its nascent stages and also of an infinite duration, could raise questions about how effective US ratification would be towards non-proliferation efforts. Central to the opposition was the role of Republican Senator Jon Kyl who served from 1996 to 2013 as US Senator from Arizona and famously advocated for not pursuing the New START between the Putin and Obama Administrations later on in his career¹⁸⁹. He also played a key role in garnering support from former defense secretaries and laboratory staff which resulted in significant votes against the Democrat push for ratification of the CTBT in 1999.

The Democrats eventually lost the battle with several important facts to note, of which a lack of a coherent planning strategy to force the Republicans to revisit their resolution as well as the Foreign Relations Committee and the International Monitoring System spending only one day on CTBT related hearings having a bearing on the final result. In the case of the latter, no testimony was heard from the scientists on the applicability of the treaty either. In the end, the votes required for the enforcement of the treaty were absent thanks to the lobbying of Senator Kyl, the lack of foresight and strategising on part of the Democrats to stall the Republican vote and the role of the FRC. In 1999, the United States voted against the ratification of the CTBT due to internal politics, squabbling and lobbying.

It is also noteworthy, that prominent Republican figures had written letters making

¹⁸⁶ Medalia, Jonathan, "Nuclear Testing and Comprehensive Test Ban Chronology Starting September 1992", *CRS Report for Congress*, Order Code 97-1007 (December 18, 2006) P.1.

¹⁸⁷ Olson Laicie. "CTBT Today; More Reasons for Ratification," *Physicians for Social Responsibility Report*, June 2009, p.4.

¹⁸⁸ Graham Nicholas, "Obama Prague Speech On Nuclear Weapons FULL TEXT.", *Huffington Post, Politics*, published 05/06/2009, updated May, 25, 2011, Accessed 21/10/2017.

¹⁸⁹ Weber, Christopher, "Senator Jon Kyl says Hell Block Vote on Arms Treaty with Russia", *Politics Daily*, 31/12/2010. .

a case against the ratification of the treaty which includes Henry Kissinger as well as former Secretary of Defense under the George W Bush administration, Donald Rumsfeld. Their advocacy, writings, presentations and letters had a considerable bearing on shaping the manner in which Republicans viewed ratification of the CTBT as both contrary to the US security interests as well as a tool to put pressure on the Democrats for 'compromising' US national security interests. The 1999 case clearly demonstrates how the tussle between the Republicans and Democrats have shaped the attitudes and rationales towards the CTBT. These justifications have evolved considerably since the dissolution of the Soviet Union. Prior to 1991, the dynamics were largely external and different and hence the attitudes on non-proliferation were different as well.

Adequately enough, much of the discourse surrounding the CTBT, barring de-jure acceptance that ratifying it unilaterally would compromise US security interests by the Republicans, evolved around the Soviet threat and later on to China as well. The complexities involved in the US stance towards ratification of the CTBT can hence be understood in light of historical events, Cold War rivalry and domestic politics, the latter of which is linked to foreign policy and national security decisions as well. Yet the rejection of the CTBT by the Senate in 1999 underlines how gravely domestic politics championed by the nationalist Republican party has thwarted the prospect of ratification despite the international security environment becoming a lot more conducive for negotiations on a test ban as well as prospects for dialogue opening up, after the end of the Cold War.

Post 2000 Era

In 2000, Russia ratified the treaty with the expectation that the United States would follow suit. Instead, what was witnessed was outright disinterest or lack of priority given by subsequent US administrations to the treaty particularly in the wake of events such as the 2001 invasion of Afghanistan and the 2003 invasion of Iraq. It took eight years before

President Barack Obama's Prague speech in 2008, which rekindled hopes that the CTBT would be treated as a priority paving the way for eventual US ratification. Yet unanimity cannot be expected by the US Senate even after 2008. The greatest hope still lies in continued advocacy, more emphasis on knowledge dissemination as well as Track II exercises which can hopefully promote a greater understanding of the cons of ratifying the CTBT in the United States.

On the subject of information dissemination, one of the most common and recurring themes in the mainstream US media is the imminent threat of China and Russia and how that provides less of an incentive for the US to ratify the treaty. China had tested in 1964 while the Soviet bomb project became a concrete proposal in 1940. It was in 1949 that Moscow conducted a secret successful nuclear test. The CTBT on the other hand, was adopted by the United Nations General Assembly in 1996.

While the US case is understandable, the alleviation of threats emanating from Russia and China requires a deeper understanding of the rationales that both countries have cited historically and in contemporary times, for retaining nuclear weapons. For the United States, citing security concerns alone, particularly after the end of the Cold War would not mitigate the challenges towards universal ratification of the CTBT nor would it prevent states from conducting tests. Both states such as Russia and China consider the US reluctance to ratify the treaty as a cause of concern as well as a justification to retain their nuclear arsenal as well as refrain from taking steps towards banning nuclear testing. There is also a perception in the contemporary era that nuclear threats are increasing due to US military adventurism as well as aggression in various parts of the world. The recent spike in tensions in the Korean peninsula since the Donald Trump administration assumed power is a classical example, of how US adversaries view US provocations as a justification for conducting further nuclear tests.

While challenges to universal CTBT ratification in many ways does lie solely with the United States taking the lead., the historical background of the US and its stance on nuclear testing can be attributed to a state's decision making is constrained by domestic politics. As the 1999 case clearly demonstrates, domestic politics and lack of consensus in the Senate continues to be a constraining factor despite geopolitical dynamics having drastically changed since the Cold War period. That said, the continued citation of security concerns, be it from Iran, North Korea, Russia or China also hints at how security has played a considerable role in impeding the prospect of ratification. Such a prospect in the foreseeable future would require a deeper, comprehensive and holistic understanding of the US case as well as how both internal and external dynamics have played and continue to play a role as far as the US ratification of the CTBT is concerned. The following sections of this paper attempts to do exactly that.

The stakes are high. There is no doubt that a second rejection of the CTBT would be disastrous. It would discourage other countries from ratifying the treaty. If the US takes the lead and ratifies the treaty, it will restore its credibility on nuclear nonproliferation issues. It will serve as a catalyst for similar action by other states. US ratification will set in motion a good domino effect, pushing many other states – including China, India, Pakistan and possibly Iran – to ratify the treaty.

3. Theoretical Framework

The debate over the Comprehensive Nuclear-Test-Ban Treaty (CTBT) demonstrates the relationship between the norms and interests. This relation shapes almost every aspect of international relation theory in the pursuit of comprehending the decision-making process. A deconstruction of this relation between the norms and interests regarding the CTBT would enable a better elucidation for our reader. Unfortunately, the CTBT has been theoretically held hostage to a binary

logic where one of its sides is defined by its opposite. In our case, the CTBT norms and interest took the shape of a binary relationship that privileged a materialistic interest versus ideational norms.

This relationship has often puzzled those who seek an understanding of the U.S. decision regarding the CTBT ratification. It is confusing why there was no push for the ratification of the treaty by the U.S. administration regardless of the an existence of a public who stood in favour of the treaty; According to a poll conducted by the coalition to reduce Nuclear Dangers in 1998, 80 % of the American public supported the treaty.¹⁹⁰ Yet, the U.S. administration failed to reflect this public support through materialising the ratification and preferred a materialistic interest over a publicly supported ideational norm. In this part, we do not seek an understanding of the “what to do to ratify the treaty”, yet to explain theoretically the why? the why behind the cost-benefit equation that defines the U.S. decision on the CTBT ratification; the why behind ignoring the public support for the treaty; and most importantly the why behind delaying the ratification till this moment.

To give a better theoretical understanding to the Case for the U.S. Ratification, we intend to use a melting pot of theories that accumulatively would help the reader to understand the uniqueness of the U.S. Case. After all, the decision to abandon the nuclear choice or nuclear testing options is complicated. By extension, it cannot be explained by one single model, rather by an inter-linked set of models that reinforce each other to formulate a final decision:

- *Cognitive Approach*: this approach has been widely used by Foreign Policy Analysis (FPA) scholars. This approach primarily examines the individual and small group decisions as a foundation of international relations. Despite looking at

¹⁹⁰ Congressional Record-Senate, V. 145, Pt. 16, September 23rd, 1999 to October 4th, 1999, 23267.

international politics as an outcome of an interaction among states, this approach strictly recognises international politics is a result of human decision makers who are acting collectively or individually.¹⁹¹ A major drawback to this approach is that it is difficult to count the factors that shape individual or in-group political decisions. According to this approach, the decision of the U.S. CTBT Ratification is limited to the interaction of some factions within U.S. and has nothing to do with the U.S. interaction with China, North Korea or any other Annex 2 state that did not ratify the treaty.

- *Internal Dynamics/Politics Approach*: this approach argues that in order to examine the U.S. position on the CTBT; the state should not be regarded as a rational/cohesive actor.¹⁹² Yet, the position on the CTBT should be regarded as an outcome of bureaucratic interests and priorities of specific groups that have an extensive influence over other bodies within the U.S. Henceforth, the decision of ratifying the CTBT for the U.S. is based on a cost-benefit equation that is set by specific groups within the U.S. A major disadvantage to this approach is that it undermines the influence of the regional and international actors in domestic decision-making process.
- *National Pride and Prestige / Psychological Approach*: this approach takes into account that the behaviour of states cannot be exclusively comprehended by mere economic or strategic interests, yet it takes into account non-materialised factors such as the search for respect and national pride in the state's decision.¹⁹³ The fact that U.S. has maintained ever since the conclusion

of the Second World War a superpower status defining its military institution as the strongest military ever existed and spending a military expenditure that is higher number than what can be spent by a whole other continent. In July 1945, the U.S. introduced to the world the first nuclear test in its pursuit for military supremacy. Later on, in the 1950s and 1960s, other countries gained a prestigious status through to look up to the American model even if they never used them in combat.

- *Security Approach*: Most likely and more than any reason, this approach has provided the major motivation for the U.S. to articulate its positions on the CTBT.¹⁹⁴ Decades of tensions have shaped the links between security and the U.S. position on the CTBT, whether in the era of the cold war or the re-rise of multipolar international system resembled in the rise of regional superpowers such as China and India or the phoenixation of older powers such as Russia. As a means to ensure its survival, and most importantly its military supremacy. For the U.S., the CTBT stands as a treaty that might decrease the reliability of its new nuclear weapons and thus devalue their importance in conflict situations due to "the high reputational costs of their use, combined with the uncertainty regarding their effectiveness from the lack of field testing"¹⁹⁵. Furthermore, computer testing is by far not sufficient in giving full data for mating new nuclear weapons with means of delivery that includes ICBMs, cruise missiles, smart bombs, etc.

¹⁹¹ Kelly O'Reilly, *Nuclear Proliferation and the Psychology of the Political leadership: Beliefs, Motivations and Perceptions* (New York: Routledge, 2015), 30.

¹⁹² William Newmann, *Managing National Security Policy: The President and the Process* (Pittsburgh: University of Pittsburgh Press, 2003), 7.

¹⁹³ Frank Rusciano, *The Global Rage after the Cold War* (New York: Palgrave Macmillan, 2006), 129.

¹⁹⁴ Nuclear Safeguards, Security, and Nonproliferation: Achieving Security with Technology and Policy, Ed. James Doyle (Oxford: Butterworth-Heinemann, 2008), 252.

¹⁹⁵ Chris McIntosh, "Framing the CTBT Debate over the US Ratification of the treaty," in *Banning the Bomb or the Bomb? Negotiating the Nuclear Test Ban Regime*, ed. I. William Zartman et al (Croydon: Cambridge University Press, 2014), 151.

4. Key Challenges

Rise of International Threats and their Impact on US National Security

Domestic politics has been a key stumbling block in the progress towards the US ratification of the CTBT. However, a large component of this opposition is framed in the context of the external geopolitical threats, which the U.S. cannot compromise its ability to counter effectively. This ebb and flow in the U.S. threat perception towards external actors can be traced closely with periods where there has been some flexibility (even if limited to political discourse) to ratify the CTBT. One significant example of this hypothesis is reflected in the U.S. decision to put in place a nuclear testing moratorium in 1992. This flexibility in the U.S. stance is argued to be a direct consequence of the Russian announcement of a moratorium on nuclear testing in October 1990. Moreover, the political will shown by President Obama to circumvent the U.S. Congress and the Senate's constitutional role by promoting ratification of the CTBT, also came at a point where the US-Russia relations were at a high point. Significant progress in terms of confidence building was achieved, as a result of signing the New START treaty which all became a broader part of the US Reset strategy.

Alternatively, the growing tensions with Russia, China and even states like North Korea and Iran make it easier for CTBT opponents to stall progress on its ratification. As the 2009 bipartisan Perry-Schlesinger Commission report¹⁹⁶ succinctly states in reference to the CTBT: "passage of the treaty would confer no substantive benefits for the country's nuclear posture and would pose security risks." Moreover, in the recent context of the flagrant disregard of international sanctions, it is

¹⁹⁶ Perry, William J., James R. Schlesinger, Harry Cartland, Fred Ikle, John Foster, Keith Payne, John Glenn et al. *America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States*. Advance Copy. Washington DC: United States Institute of Peace, 2009. <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA501604>

increasingly argued that the U.S. cannot afford to look weak in its nuclear posture. The opponents of the treaty do not want to give up the ability to modernise their nuclear arsenals and test in the future, as the U.S. must be able to develop new weapons to counter new threats, which also include non-state actors.

However, it is worth mentioning that the U.S. has continued to modernise its arsenal, while ascribing to the nuclear testing moratorium. One example is of the B-61 Mod-7 which was warhead that was modernised in 1997 to be able to undertake earth penetrating missions, and be used for both tactical and strategic purposes against hardened targets. This was successfully done without the need for conducting a nuclear test.¹⁹⁷ Moreover, a 2009 JASON panel of independent scientists concluded that the U.S. does not need to continue nuclear test explosions to maintain the reliability and effectiveness of the U.S. nuclear stockpile.¹⁹⁸

Verifiability of the Nuclear Test Regime

Another issue that has historically been cited as a key loophole in the CTBT and hence poses a challenge to the U.S. ratification has been that of effective detection and verifiability of nuclear tests. In 1999 when the treaty ratification attempt failed, it was on the basis of the well-researched opposition presented by Senators Jon Kyl, Trent Lott, the late Jesse Helms, and the late Paul Coverdell who raised concerns over the treaty's verifiability and its effect on nonproliferation efforts¹⁹⁹. Moreover, the fact that the Foreign

¹⁹⁷ Carey Sublette, "The B61 (Mk-61) Bomb: Intermediate yield strategic and tactical thermonuclear bomb," Nuclear Weapon Archive, updated January 9, 2007, <http://nuclearweaponarchive.org>.

¹⁹⁸ "Lifetime Extension Program (LEP) Executive Summary". 2009. https://www.armscontrol.org/system/files/JASON%20LEP%20REPORT%20SUMMARY%2009-09_0.pdf.

¹⁹⁹ Jean du Preez, Sean Dunlop. 2009. "The United States And The CTBT: Renewed Hope Or Politics As Usual? |

Relations Committee spent only one day on CTBT-specific hearings and lacked any testimony from scientists on the technical aspects further consolidated doubts on this issue.

Firstly, a zero-yield prohibition is not seen as easily verifiable and secondly even this stipulation has been seen as insufficient to prevent countries from testing to develop new nuclear capabilities or improve on the existing capability²⁰⁰. This feeds into the U.S. fears that it is possible to cheat on treaty obligations. This issue was further exacerbated by the underdeveloped nature of the U.S. science based stockpile stewardship programme, which was still in its nascent stages in 1999.

While these arguments hold some ground, the technological advancements in this day and age have greatly devalued their credibility. Even if a country conducts a de-coupled nuclear test, its yield cannot be hidden if it is less than 1-2 kilotons²⁰¹. Practically any test, which has a yield below that, cannot help countries that have not tested previously. Moreover, even if they have tested before, a 2002 Academy of Science report argues, "utility for a state that has tested nuclear weapons would not be sufficient to alter the strategic balance vis-à-vis the U.S." ²⁰². It is also worthwhile to note that this is a similar strategic rationale that was used to build consensus in the senate when ratifying the

START I and analysing the prospect of Soviet cheating on its treaty obligations²⁰³.

Moreover, the robustness of the International Monitoring system has been put to test in the recent months after it successfully detected and identified the multiple North Korean nuclear tests. CTBT's IMS consists of 337 facilities located all over the world, which uses four complementary verification methods, – seismic, hydroacoustic, infrasound and radionuclide – to monitor the planet for nuclear explosions²⁰⁴. These developments have a significant impact on the claims that the verifiability of the CTBT regime is contentious and getting this updated technical knowledge to policymakers is considerable challenge that must be addressed.

Domestic Politics

After 2008, the Obama administration expressed a commitment to move forward on the nuclear disarmament agenda but the CTBT remains unfinished business. The Obama administration's efforts to start negotiations were hamstrung by partisan differences and a strained relationship between the White House and Congress. Under the Trump administration, the likely prospects of US Senate holding another vote on CTBT's ratification are not too bright because the ratification of the treaty requires a significant investment of political capital from the White House. Influential Republicans in the Senate are also opposed to the idea of taking another look at the nuclear test ban treaty. While opponents of the CTBT frequently mention the possible vulnerability of America's nuclear arsenal, domestic politics will shape any future outcome of the treaty.

NTI". *Nti.Org*. <http://www.nti.org/analysis/articles/united-states-and-ctbt/>

²⁰⁰ Perry, William J., James R. Schlesinger, Harry Cartland, Fred Ikle, John Foster, Keith Payne, John Glenn et al. *America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States*. Advance Copy. Washington DC: United States Institute of Peace, 2009. <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA501604>

²⁰¹ National Academy of Sciences (NAS), Technical Issues Related to the Comprehensive Nuclear-Test-Ban Treaty, Washington, D.C., National Academy Press, 2002, pp. 46-48.

²⁰² *Ibid.*, p. 9-10.

²⁰³ David Hafemeister, "The Comprehensive Test Ban Treaty: Effectively Verifiable," *Arms Control Today*, October 2008, www.armscontrol.org.

²⁰⁴ "Overview Of The Verification Regime: CTBTO Preparatory Commission". 2017. *Ctbto.Org*. <https://www.ctbto.org/verification-regime/background/overview-of-the-verification-regime/>.

However, the history of nuclear arms control shows that neither of these challenges are insurmountable. The coming into force of the CTBT is important to pursue the long-term goal of global disarmament and the American public needs to realise that. A de facto test ban is already in force. Once the CTBT enters into force, it will go a long way in strengthening global security by substantially reducing the risk of future nuclear proliferation. Some experts like Matthew Kroenig argue that the political circumstances for the ratification of the CTBT might not be ripe today. Notwithstanding the plausibility of this view, pitching nuclear testing ban as an issue of national security in the US can help prevent it from once again becoming a victim of partisan politics. As a republican president, Donald Trump has greater political ability to make sure that the US ratifies the treaty. The greatest arms control cuts in the past 40 years have been done by republican presidents.

One of the reasons why the CTBT was rejected by the US Senate in 1999 was the lack of knowledge about its security benefits in the days leading up to the vote. Opposition to the treaty was based on a misguided notion that it would make the US lose confidence in its nuclear deterrent. However, that concern has now been resolved since, under the Stockpile Stewardship Program (SSP), the US can assess and sustain the reliability of its nuclear arsenal without having to resort to underground nuclear tests. Similarly, many other reasons for which the CTBT was rejected in 1999 are not valid anymore.

There is a strong political imperative for the US Senate to reevaluate the merits of CTBT with a fresh perspective. Strong bipartisanship and a well-executed ratification campaign can help CTBT advocates turn the tide in their favour. Any future vote on the CTBT must be preceded by extensive hearings that address the concerns of the treaty's opponents. A multi-pronged strategy is required that is aimed at building bipartisan support in US Senate. Disarmament advocates should approach those Republican senators who have

not been exposed to this debate before and educate them about the benefits of the treaty.

The road to the twin goals of nuclear nonproliferation and disarmament goes through a universal ratification of the CTBT. The ratification of the CTBT will not only promote nuclear disarmament but also help us reach the ultimate goal of elimination of all nuclear weapons from the face of the earth. The CTBT accomplishes this task by making it almost impossible for aspiring nuclear states to develop a reliable nuclear deterrent. A test ban treaty would prevent China from further advancing its nuclear capabilities and stop the vertical proliferation of nuclear weapons in the existing nuclear states. Since CTBT imposes a zero-yield ban on the testing of nuclear weapons, it will be difficult for other nations to cheat.

Another challenge related to the ratification of the CTBT is lack of awareness regarding the benefits of a comprehensive ban among the American public. A considerable number of people have either absolutely no knowledge of the CTBT like most of other foreign policy issues or they continue to oppose to oppose the treaty on grounds based on outdated information.

5. Recommendations for Ratification by the U.S

Under President Trump's executive order issued on January 27, 2017, the Pentagon has initiated a Nuclear Posture Review (NPR), which is expected to be completed by the end of this year. While issuing the orders, President Trump announced to "ensure that the United States nuclear deterrent is modern, robust, flexible, resilient, ready, and appropriately tailored to deter 21st-century threats."²⁰⁵ He sharply criticised Obama administration's policy of restraint and pledged to "greatly strengthen and expand" U.S. nuclear weapons

²⁰⁵ Rebecca Kheel, "Pentagon starts review of nuclear posture ordered by Trump", The Hill, April 17, 2017

capabilities.²⁰⁶ As indicated by these statements, the Trump administration is expected to initiate significant changes in the current nuclear policy of the United States. This policy reversal would further diminish the prospects of US ratification of CTBT, among other issues. It is, therefore, important to revive and reinvigorate the campaign for US ratification

Opponents of the CTBT argue that nuclear testing is required to maintain a high level of confidence in nuclear stockpiles in the United States. However, this argument is no longer valid since, under the science-based Stockpile Stewardship and Management Program, the US does not need to resort to nuclear testing to maintain the safety and reliability of its existing nuclear-weapon stockpiles. Another point of criticism is that CTBT's monitoring and verification systems are not capable of preventing cheating by identifying secret nuclear tests. Even this argument does not withstand scrutiny. The CTBTO has a very sustainable and verification regime. The International Monitoring System (IMS) with its 321 monitoring stations and 16 radionuclide laboratories is fully operational and capable of detecting nuclear explosions anywhere across the globe.

Overcoming domestic political barriers

In view of mounting criticism from the Trump administration, CTBT at the moment faces the risk of even being evicted from the list of consideration, especially if this issue is returned to the executive branch as suggested by certain reports.²⁰⁷ The current challenge, therefore, is not only win to more support, but also to retain the existing grounds.

²⁰⁶ Donald Trump: US must greatly expand nuclear capabilities, BBC, 22 december , 2016. <<http://www.bbc.com/news/world-us-canada-38410027>>

²⁰⁷ Michaela Dodge, "The Trump Administration's Nuclear Weapons Policy: First Steps", The Heritage Foundation, November 30, 2016. <<http://thf-reports.s3.amazonaws.com/2016/IB4634.pdf>>

In order to overcome domestic political barriers, there is need to address primary concerns of the US policymakers. Prospects of the CTBT ratification are highly dependent on perception about the impact of ratification on US national security. As highlighted above, the primary obstacles in the way of ratification in 1999 were the concern over safety of the US arsenal and lack of ability to detect any violation of nuclear testing by other countries. It is, therefore important to highlight and reiterate scientific credibility, thanks to 20 years of stockpile stewardship program, to ensure nuclear deterrence in the longer run. In addition, with the formation of international monitoring system that has established some 300 monitoring stations around the world, concern regarding clandestine nuclear testing has also become redundant. Real time monitoring and efficient detection of North Korea's recent nuclear test through the IMS stations have validated the success of this system.

In this regard, directors of scientific laboratories should be more vocal in expressing their confidence on reliability of U.S. nuclear stockpile without explosive testing and ability of IMS stations to detect any nuclear test around the globe. They should engage with policy makers to clarify the myths and build more confidence.

Building public support

The role of civil society in creating a global norm against nuclear testing has been remarkable. Historically, anti-nuclear activism has played an important role in creating public awareness in the US. Originating from environment movements during 1960s and 70s, anti-nuclear movements voiced public concerns against health impacts of nuclear testing and nuclear safety issues. It is important to reinvigorate and build upon the existing support and also explore new avenues. In order to muster support at the Capitol, it is important to engage public directly, particularly the youth in the political constituencies of the policymakers who have been opposing CTBT ratification.

The idea launched by CTBTO youth group members to declare nuclear weapon free campuses is particularly relevant in such constituencies. This will not only serve as a public declaration against the nuclear weapons but will help bring the debate of nuclear testing to the public sphere. The general public in the US should be informed about the whole debate surrounding the questions of deterrence credibility of US arsenal. An informed public should write letters to the senators and congressmen and convey their concerns and should hold them accountable for their policy choices in Washington DC.

Creating International Momentum

Successful adoption of the treaty on the prohibition of nuclear weapons at the UN was result of an international momentum that stayed the course. Likewise, CTBTO has been successful in creating a stigma around nuclear testing which is evident from unequivocal international condemnation of North Korean nuclear tests. However, this needs to get further push to create international momentum, which in turn would have its influence on US' role as a responsible global leader. United States is already facing international public criticism for not honouring its disarmament commitments under the article 10 of the NPT. While complete disarmament remains an elusive goal, this pressure can be channeled into achieving certain means such as CTBT, towards that end.

The Non-governmental Organization (NGO) community can play a significant role in consolidating the existing taboo against nuclear tests. NGOs working on this agenda need to increase their footprints in the United States. They should help educate public by providing factual information through seminars and exhibitions about hazards of nuclear testing and significance of US leadership in this important area of global concern. We need to raise technical awareness about the credibility of the verification regime. The role CTBT can play in creating global non-proliferation pressure against states like North

Korea and Iran is very significant. There is a dire need to develop programmes to increase interaction between the U.S. government and the CTBTO on a technical level in order to build trust and prepare ground for a greater political engagement when the time is ripe. In order to make tangible progress, we need to drive home this point that the United States can maintain the safety and reliability of its nuclear arsenal without having to resort to underground nuclear testing. In addition, we should highlight the positive technical advancements that have been made as a result of the treaty organisation. This can be done by calling for a bipartisan review, which examine improvements in the capabilities of the CTBT International Monitoring System and subsequently make an assessment on the progress that has been made in assuring the safety and reliability of the U.S. nuclear stockpile.

The Russian Federation and the CTBT: Article XIV from the Russian Perspective

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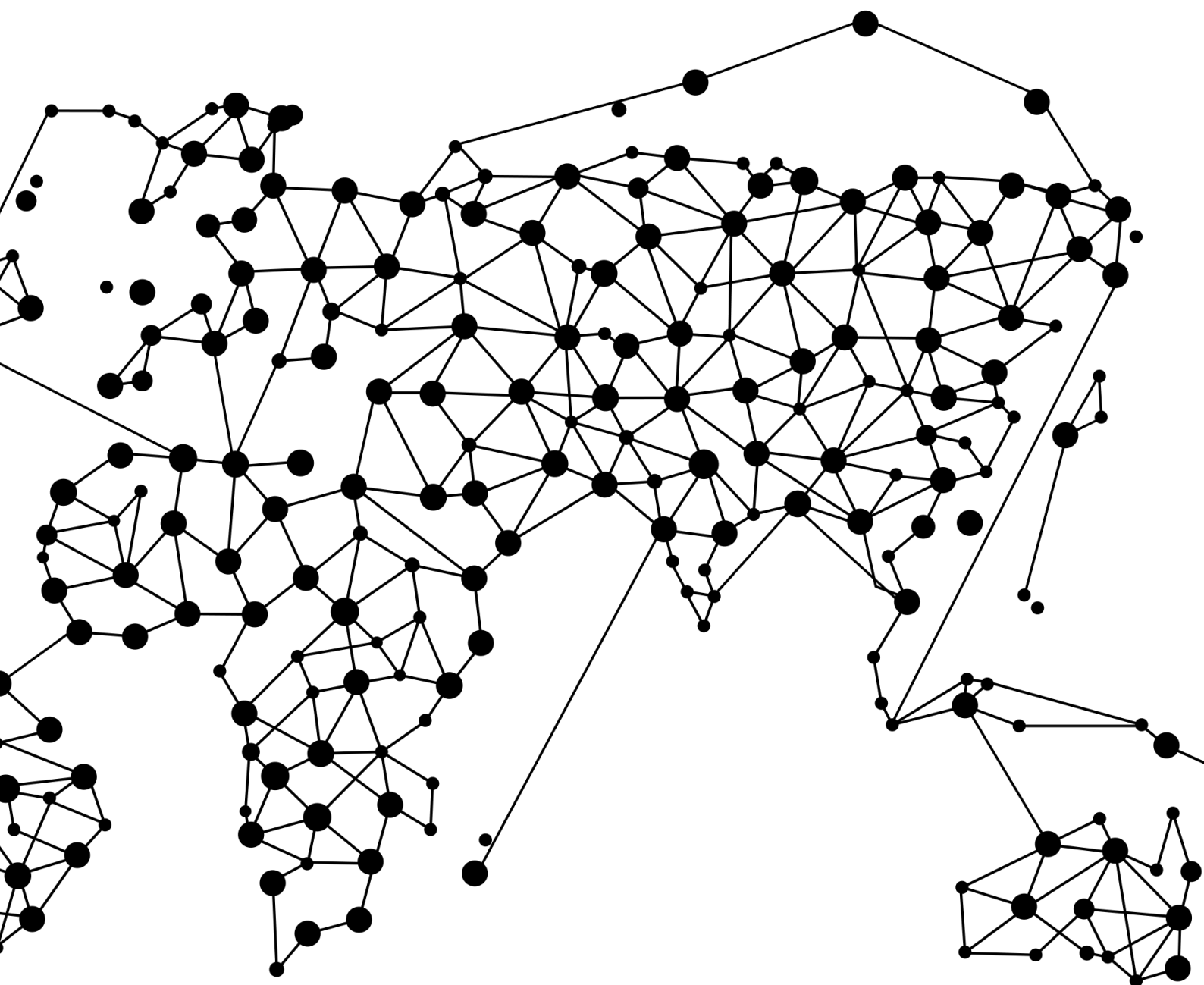


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1. Introduction

Throughout more than 20 years of its existence, the Comprehensive Nuclear-Test-Ban Treaty (CTBT) has proven itself as a major milestone in international nuclear non-proliferation regime that has manifested through significant achievements of its verification regime and its equal and inclusive character. Unfortunately, as the Treaty's entry into force (EIF) formula stipulated in Article XIV presupposes the mandatory ratification of the CTBT by the 44 'nuclear technology holders' (Annex 2 States), due to the position of certain countries within this list the Treaty has not yet entered into force. As stated in the Article XIV of the CTBT:

«This Treaty shall enter into force 180 days after the date of deposit of the instruments of ratification by all States listed in Annex 2 to this Treaty, but in no case earlier than two years after its opening for signature»

The inclusion of this provision in the Treaty remains a controversial issue among experts and decision-makers. While some argue that such provision was necessary for the successful outcome of the CTBT negotiations, others view Article XIV as one of the main weaknesses of the Treaty.

The purpose of this paper is to explore the history behind, the logic of and reasons for the implementation of the Article XIV, its advantages as a treaty's entry into force formula, as well as its impact on the prospects of the CTBT EIF in general and from Russia's point of view in particular.

The paper also aims to highlight the longstanding commitment of the Russian Federation to the non-testing international norm that first manifested through upholding a moratorium on nuclear testing since 1989 later transformed into a legally binding obligation. Being not only a State who signed and ratified the Treaty, but also one of the world's biggest nuclear weapon states, Russia has not stopped its broad activity with regard

to promoting the Treaty and has been an example to other countries, especially those who haven't yet done so.

6. Russia and the CTBT Negotiations²⁰⁸

The Russian delegation at the CTBT negotiations that started in 1994 under the auspices of the Conference on Disarmament (CD) in Geneva was led by HE Ambassador Grigory Berdennikov and consisted of a number of high-rank diplomats and specialists. Among these there were those who travelled back and forth and participated in the negotiations, but also there was a big high-level team that was executing an equally complicated task - advocating for the Treaty at home. One of those people was Lev Ryabev, former Minister of Medium Machine Building of the USSR and the Deputy Minister of Russia for the atomic energy, who was Head of Interagency high-level working group in Russia created specifically for the purpose of handling all the points of contention and of working out a homogeneous position between governmental agencies and other structures with regards to the CTBT.

As the negotiations were multilateral (unlike in the 1960-70s, when the first testing limitations treaties were negotiated and adopted trilaterally, among the Soviet Union, the US and the UK), negotiating a consensus language was not easy. Negotiators often had to travel back to their capitals to coordinate with the relevant governmental agencies their countries' national positions on crucial Treaty provisions and to receive instructions from the country's political leadership. It was especially challenging for the Nuclear-Weapon States (NWS) as they had to formulate the position for the discussion within the P5 and for the CD in general at the same time. The negotiations

²⁰⁸ This part of the paper is based on the following: Rebecca Johnson, "Unfinished Business: The Negotiation of the CTBT and the End of Nuclear Testing"; Viktor Slipchenko, "Life of a Disarmament Diplomat" and informal conversations between A. Shavrova and Amb. G. Berdennikov on the margins of the CTBTO Science and Technology Conference in Vienna in June 2017.

process was also divided into 'baskets', according to the segments of the CTBT verification mechanism – International Monitoring System (IMS), International Data Centre (IDC), and On-Site Inspections (OSI). Each 'basket' had a coordinator in order to facilitate the course of the talks. Of these three, the most contentious ones were issues of IMS and OSI, that were especially sensitive for the nuclear weapon states as they required a certain degree of transparency in the sensitive areas of national security. Eventually, these issues were successfully resolved in a way that they are now implemented into the Treaty. But throughout the negotiations there were three main 'bottlenecks' that drastically defined the future shape of the CTBT:

- **The scope of the Treaty:** After long negotiations (in the middle of which France, for example, decided to resume nuclear testing and conducted six tests from 1995 to 1996, while the US was conducting hydronuclear experiments) and exchange of arguments it was finally agreed that the test ban had to be truly comprehensive and not threshold. The breakthrough was made when both France and the US (mostly thanks to Bill Clinton's support) finally agreed to cease the above-mentioned activities and commit to a full zero-yield ban. With that, China, Russia and the UK got on board. The text of the provision on scope was initially proposed by Australia and it was adopted with support of all the P-5 members.
- **Duration of the Treaty:** There was no unanimity among the P5 members on this issue either. However, the decisive role was played by the 1995 NPT Review and Extension Conference, that made a historic decision to extend the NPT indefinitely. In this regard, it was decided to conclude the CTBT in the same manner.
- **Entry into force:** The credit for the truly unique CTBT EIF force formula goes to Russian Head of the delegation Amb. Grigory Berdennikov. Among many similar proposals, it was Russia's initiative that all

the states that has potential for development of nuclear technology should join the Treaty before it enters into force. At least there should have been 8 states whose ratification was mandatory for the Treaty EIF, but then it was decided to go for all the 44 'nuclear technology holders'. Despite the massive opposition to this innovative approach, Russian perseverance prevailed and the inclusion of this provision into the Treaty was a success. It was also agreed to create the mechanism that would contribute to achieving this goal – once in a couple of years there should be convened a conference aimed at facilitating the Treaty EIF.

After three years of negotiations and long rounds of talks aimed at resolving the main points of contention (including IMS and OSI issues as well), parties managed to achieve an agreement on the CTBT and conclude the Treaty in 1996. Russia signed the CTBT on the first day of its opening for signature on September 24, 1996. In retrospective, it seems especially important to highlight the constructive role that Russia played in the negotiations and in their successful outcome. Nevertheless, the hard part in terms of Treaty's implementation wasn't over and there was a complicated objective ahead - to 'walk' the Treaty through the national legislative organs to achieve ratification.

7. Process of CTBT ratification in the Russian Parliament

Hearings on the CTBT ratification in the Russian State Duma (the Lower House of Parliament) started in April 2000. Since in the draft was executively inspired, meaning that the initiative came directly from the President of Russia, it was quite likely that the process of adoption would pass with flying colors, not to mention that the Russian Federation has been upholding the moratorium on nuclear testing since October 24, 1990. However, by that time the US Congress already failed to ratify the CTBT and this might have potentially

complicated the process of ratification in Russia.

The assessment of the Treaty prior to ratification was assigned to the Defense Committee and to the International Relations Committee of the Russian State Duma. The International Relations Committee showed support for the Treaty with 10 out of 18 members voting in favour (six Committee members from the Communist Party abstained from voting), so basically it was a 'done deal'²⁰⁹.

The Defense Committee, in its turn, assessed all the consequences that the CTBT ratification might result in economically, politically and militarily.

- Politically, CTBT ratification would highlight Russia's long-standing commitment to non-testing, would encourage other non-acceding countries to follow suit, would create basis for further strategic arms limitations.
- Economically, CTBT ratification would mean additional expenses for creating new scientific labs in order to verify the operational readiness of the nuclear arsenal without full-scale testing (approx. USD 140 mln per year over 10 years), annual contributions to the CTBTO (approx. USD 1 mln per year), creation and sustaining of the Russian IMS segment (approx. USD 6 mln), conservation and maintenance of the Novaya Zemlya test site (around RUR 250 mln per year).
- Militarily, before the CTBT is ratified, Russian nuclear arsenal and especially those types of weapons which had their guaranteed service life expired after 2010 had to be assessed. In addition, the Treaty ratification requires confirmation of parametric capability of the methods used to verify the reliability and operational safety of nuclear arsenal through laboratory experiments.

- In the meantime, the IMS would provide opportunity to verify other countries' adherence to their test ban commitments²¹⁰.

The Defense Committee also made a positive recommendation with regards to the Treaty. The main standpoint was that after acceding to this crucial non-proliferation mechanism Russia will be in a more beneficial position than those nuclear weapon states who haven't done it yet (specifically the US) and this would provide Russia with an additional leverage internationally.

Eventually, the two Committees drafted a resolution regarding the CTBT and submitted it for a hearing at the regular plenary session at the State Duma. The main opposition to the ratification was coming from the Communist party. During the discussion, the main counterargument was that it would be impossible to sustain the military readiness of the nuclear arsenal without full-scale testing and that was one of the main reasons why the CTBT ratification in the US Senate ended up a failure. There were also major concerns about sustainability of Russian economy. The opposition faction tried to postpone the decision on the CTBT. One of the proposals was to put aside the ratification of the CTBT for a while and get back to this issue when there would be first results of the START II treaty implementation (on April 14, 2000, a week before the CTBT ratification, the Russian State Duma approved a legislation on ratification of START II).

The ruling coalition led by the 'Edinstvo' party was, however, resolved to achieve CTBT ratification regardless. From their perspective, the US reluctance to adhere to the Treaty was one of the main reasons why Russia should have done it as it would provide Russia with an opportunity to talk with the US on other non-proliferation and disarmament issues from a position of strength²¹¹. Therefore, after a session of closed hearings, where Members of

²⁰⁹ <https://lenta.ru/news/2000/04/17/dvzjai/>

²¹⁰ <https://www.lawmix.ru/lawprojects/68668>

²¹¹ <http://transcript.duma.gov.ru/node/2193/>

Parliament were addressed by the then-Foreign Minister Igor Ivanov and the then-Minister of Defense Igor Sergeev, it was decided to approve the ratification of the CTBT.

Therefore, in this context, it is very important to understand what was the international and domestic environment that contributed to Russia's decision to ratify the CTBT. The first decade of year 2000 was assessed by the State Duma analysts as a period of unprecedented activity in terms of ratification of international and multilateral treaties. For example, in the previous 1999 Duma session (under the presidency of B. Yeltsin) only 9 of 24 international treaties approved by the State Duma were signed by the President. In the next session, 24 out of 27 treaties, including the CTBT (as well as START II) approved by the Lower House of Russian Parliament were consequently signed by the President²¹². Therefore, presumably, ratification of the CTBT together with other nonproliferation and arms control mechanisms was not only a commitment that Russia has taken internationally, but also a manifestation of support for the new President Vladimir Putin. On the international scale, Russian policymakers wanted to demonstrate the consistency of Russian disarmament policies on the international arena and to rebut criticism regarding the delaying of taking practical steps towards implementation of Article VI of the NPT by the Nuclear-Weapon States.²¹³ The other incentive was to gain leverage in future negotiations with the United States.

8. Russia's role in promoting CTBT after its ratification

Since the ratification of the CTBT, Russian Federation has always supported the Treaty and the Organisation itself, contributing to the

work of the Provisional Technical Secretariat as well as completing the Russian International Monitoring System (IMS) segment and promoting the entry into force of the CTBT. Subsequent to the ratification, Russia and the CTBTO Preparatory Commission signed the facility agreement on the development of the IMS which entered into force in 2006. The Russian segment of the IMS is almost completed with 27 out of 32 monitoring facilities already certified²¹⁴. Moreover, the Russian radionuclide monitoring station RN58 in Ussuriysk has played a significant role in detecting and analyzing DPRK nuclear tests. In 2013, for instance, it collected samples containing unusual combinations of ¹³³Xe and ^{131m}Xe.

Regarding political efforts in promoting the entry into force of the CTBT, they have been demonstrated in numerous speeches and statements made by Russian officials as well as members from the academia and from the civil society.

Russia has been and remains an active participant of most of the CTBT-related events. It particularly includes Article XIV Conferences and Ministerial meetings. Russia co-authored nearly all of the joint statements made by the "Friends of the CTBT" group of the Ministers of Foreign affairs.

Russia also suggested a number of important initiatives to enhance a non-testing norm. At the second Article XIV Conference in 2001 Russia proposed bilateral verification measures with the United States outside the Treaty verification regime that would contribute to greater transparency and confidence-building: "In order to strengthen the confidence-building measures after entry into force of the treaty we are prepared to suggest, to the United States in the first place,

²¹² <http://iam.duma.gov.ru/node/1/4293>

²¹³ «Заключение Комитета по обороне "На проект Федерального закона "О ратификации Договора о всеобъемлющем запрещении ядерных испытаний», <https://www.lawmix.ru/lawprojects/68668>

²¹⁴ Выступление члена Группы видных деятелей Подготовительной комиссии Организации Договора о всеобъемлющем запрещении ядерных испытаний Чрезвычайного и полномочного посла Г.В. Берденникова по вопросам ДВЗЯИ, Постоянное представительство Российской Федерации при международных организациях в Вене, <http://rusmission.org/6/1/2760>

considering the possibility to develop additional verification measures for nuclear test ranges going far beyond the treaty provisions. This could include the exchange of geological data and results of certain experiments, installation of additional sensors, and other measures.”²¹⁵ Overall, Russia advocates for “the need for all States to adhere to the letter and spirit of the Treaty until its entry into force. It is important to observe the nuclear test moratorium during this period. Russia intends to further comply with this commitment, if other nuclear weapon States do likewise”. Russia actively and consistently supports international efforts to strengthen the CTBT verification mechanism. Russia’s active participation in preparations for the 2014 Integrated Field Exercise (IFE) in Jordan is an example of such activity. Previously, Russia also contributed and participated in 2008 IFE in Semipalatinsk.

The broad support for the CTBT received a new dimension in April 2016, when Deputy Foreign Minister S. Ryabkov, together with the Executive Secretary of the CTBTO, Dr. Lassina Zerbo, published an article in support of the Treaty. They acknowledged the significance of the Russian ratification of the CTBT as “support at a time when the future of the Treaty was not clear”²¹⁶ and reaffirmed the necessity of the entry into force of the Treaty at the earliest possible time. In 2017, it was followed by another joint article published in “the Diplomat” addressing the same issues.

Russia on the prospects of the CTBT Entry into Force

²¹⁵ V. Slipchenko, Russia, Ratification and the CTBT’s Entry into Force, <http://www.vertic.org/media/assets/Publications/CTBT%20OP3.pdf>

²¹⁶ «Joint Article by the CTBTO Executive Secretary Dr. Lassina Zerbo and Deputy Foreign Minister of the Russian Federation Sergey Ryabkov published in Kommersant Daily on April 18 and in Foreign Policy magazine on April 22, 2016, МИД РФ, http://www.mid.ru/foreign_policy/international_safety/regprla/-/asset_publisher/YCxLFJnKuD1W/content/id/2243653

In spite of the different opinions circulating among military and political circles during the last 20 years since the adoption of the CTBT and even the current crisis in Russia-US relations, the Russian position on the Treaty has been consistent and can be characterised as firmly supportive. Russian high-level officials have continuously reaffirmed Russia’s support for the CTBT and urged those Annex 2 States that have not yet ratified the Treaty to do so in the nearest time possible. Among all these countries, Russia has put a particular emphasis on the US ratification since it can provide a greater balance between the two nuclear powers. US ratification of the CTBT can also strengthen bilateral relations between the two nuclear powers as a confidence-building measure.

It is also important to bear in mind that the Russia-US disagreements on nuclear issues, such as the missile defense systems and further bilateral nuclear arms reductions negotiations, affect not only the global nonproliferation and disarmament regime, but in particular the integrity of the CTBT. Some Nuclear-Weapon States currently have plans for modernizing their arsenals. Other factors are the non-ratification by other Annex 2 States and the continuing nuclear testing conducted by the DPRK. Apparently, the concerns raised in 2000 are still valid today. While Russia consistently supports the entry into force of the Treaty, it also acknowledges the factors that undermine its viability, which makes it even more urgent for those States that have not signed or ratified the Treaty to accelerate that process.

The Russian diplomatic, academic and scientific circles acknowledge that the US was the first country to sign CTBT and it bears a special responsibility in implementing it. The US is also a P5 member and one of the global great powers with a network of alliances and a huge influence worldwide, which gives it an additional leverage. When the Treaty ratification was literally ‘slammed’ by the Republicans back in 1999, there were two main arguments against:

- Without full-scale testing confidence in the US nuclear arsenal will inevitably decline
- The Treaty is virtually unverifiable and it is impossible to track countries' compliance to the CTBT.

However, 20 years passed and a lot has changed. As for the first argument, nowadays virtually all of the US scientific laboratories claim that the nuclear Stockpile Stewardship Program can and will maintain a high level of confidence without resorting to full-scale testing. As for the second argument, within the past 20 years the CTBT verification system achieved impressive results. The IMS is assessed to be more than 90% ready, so justification for non-ratifying the CTBT can be easily rebutted. Nowadays the CTBT verification system is a robust mechanism that not only detects explosive activity but is also applied for civilian purposes.

The Russian Federation fully supports the spirit and the letter of the CTBT. According to government officials and diplomats it is disappointing that not all the remaining Annex 2 States are willing to follow suit. Unfortunately, it is hard to predict the CTBT EIF in the foreseeable future mostly due the domestic environment in the United States that generate weak prospects of the Treaty ratification by the Republican-led US Congress which is partially caused by the United States policy regarding modernisation of its nuclear arsenals as well as further development of missile defense systems. The CTBT Entry into force, however, is crucial in the context of continuation of nuclear testing by the DPRK that undermines international and regional security and the non-proliferation regime in particular.

9. Evaluation of the Article XIV clause from the Russian perspective

Russia has consistently supported the Treaty and is considering accelerating the CTBT entry into force as a priority. Russia has always regarded the CTBT as a key element of the

security system in the field of nuclear arms limitations and non-proliferation of nuclear weapons and advocates for the speedy ratification of the Treaty by all 44 States of Annex 2 without preconditions.

However, in recent years some experts argued that in order to overcome the EIF deadlock it may be reasonable to explore options for circumnavigating the Treaty's EIF formula. In June, 2016, at the High-level meeting with the then-Secretary-General of the United Nations Ban Ki-moon and high representatives of non-proliferation community including the CTBTO Executive Secretary Dr. Lassina Zerbo, a Romanian ambassador, who happened to be present at the CTBT negotiations in Geneva in 1996, recalled that back in the days there were talks about the waiver clause to the CTBT EIF formula, but this initiative was eventually declined²¹⁷. The official position of Russia in this regard remains unchanged - Russia has been an ardent proponent of the position that for the current environment waiving the Article XIV of the Treaty is not an option and the CTBT has to enter into force the way it was negotiated two decades ago. Moreover, this kind of discussion not only distracts from the actual task – to achieve the Treaty's Entry into Force – but also jeopardises the integrity of the Treaty.

It is important to recall that before agreeing on its EIF formula, negotiators considered different variations of countries whose ratification of the CTBT would be mandatory for the Treaty's EIF:

- all the official NWS;
- NWS and all nuclear capable states;
- all of the CD members;
- all of the CD Members after expansion;
- all states (or 95% of those) owning nuclear reactors or developing nuclear research programmess;

²¹⁷ 20 year CTBT Anniversary - UN Secretary-General Ban Ki-moon at the CTBTO - <https://www.youtube.com/watch?v=agyMv-hePUQ>

- a concrete number of states (e.g., 40 or 65, including NWS or including CD members);
- along the lines of the provisions of the Treaty of Tlatelolco;
- a large number of key states.

In the end, it was decided that the formula will include the list of 44 states which were participating members of the CD on June, 18 (after expansion) and appeared in the 1995 and 1996 IAEA lists of states with nuclear research or nuclear power reactors respectively. It is quite safe to assume that the negotiators gave it a good thought and came up with the most acceptable formula to assure the effectiveness and the comprehensive character of the Treaty while in force. Subjecting that to change will undermine the whole essence of the process of diplomatic negotiations and would lead to irreversible consequences. The risk is that waiving of Article XIV will provide the remaining non-acceding Annex II States with an opportunity to escape forever from their obligations to sign and ratify it. Any "opening" in interpretation of the Treaty will lead to the loss of its main purpose - to prevent execution of any nuclear test. Moreover, the non-ratifying states that signed the CTBT are already benefiting by having access to the IMS data and granting them a waiver to elope from the Article XIV obligations is not an option. Any kind of misinterpretation of Article XIV would put the international nuclear nonproliferation regime in jeopardy.

Foregoing Article XIV will also put an end to any attempts to revive domestic discussion within the non-acceding States about the value of the CTBT and the importance of adherence to it. Such discussion usually involves 1.5-2 track of diplomacy, NGOs, academia and other expert groups, that have already proven themselves as potentially effective mechanisms to promote a certain cause. Given some national specifics, without those groups it would be hard to sustain pressure on policymakers (for example, in the US) in order to get the Treaty for another round of legislative review in the future.

Despite the fact that the Article XIV clause is often subject to criticism, it is hard to imagine the effectiveness of the Treaty being in force without its ratification by China, DPRK, Iran, India, Pakistan, Israel, Egypt and the United States.

10. Conclusion

Ever since signing the CTBT in 1996 and ratifying it four years later, the Russian Federation has been a strong advocate of the nuclear test ban. Despite the apparent lack of significant progress in anticipating the Treaty's EIF, Russia has been consistent in its efforts to promote the Treaty as a crucial nonproliferation mechanism and key to strengthening international security. Russia believes that the ratification may be beneficial to all the remaining Annex 2 countries. For instance, by adhering to this crucial nonproliferation mechanism, China would be able to reaffirm its growing global leadership status. The DPRK, if interested in maintaining security on the Peninsula, should also consider joining the CTBT (the starting point in this direction could be the introduction of a moratorium on nuclear testing). India and Pakistan, moving from unilateral moratoriums on nuclear testing to legally binding obligations under the CTBT, would contribute to enhancing regional stability and strengthening their position within the international community that might result in being an interim step towards further inclusion into the international nonproliferation regime (for example, being admitted to the Nuclear Suppliers Group). Ratification of the CTBT by key States in the Middle East, namely Egypt, Israel and Iran would improve regional security and stability, strengthening the international regime of nonproliferation of nuclear weapons.

However, it is quite obvious that the ball is in the court of the US. The lack of political will in Washington, D.C. becomes a serious obstacle to the CTBT becoming a comprehensive international legal instrument. The other seven countries that have not yet ratified the CTBT

pay attention to what happens in the US in this regard on the domestic and international scope, which makes the non-ratification of the CTBT by the United States affect the position of the others. The matter of principle for the Russian Federation is that the successful completion of the process of the CTBT EIF can be achieved through the United States ratification as the first step.

In the meantime, it is vitally important to uphold the existing moratorium on nuclear testing and try to encourage the DPRK to do so as well. In this regard, the joint Russia-China initiative of July 4, 2017 regarding the 'double-freeze' – the DPRK announcing moratorium in exchange for the US ceasing joint military exercises with the Republic of Korea by the border - seems a viable option that could result in some practical steps towards strengthening of the international nonproliferation regime in the region and worldwide. Unfortunately, not all the countries turned out to be able to share the value of such initiative.

Unless the CTBT enters into force, the international nuclear nonproliferation regime can be potentially endangered. The value of the CTBT and one of its main advantages is a truly comprehensive and equal character of the Treaty. Therefore, it is important to assure that all States acceding to the Treaty do that on the basis of equality, which would support the whole 'spirit' of the CTBT. In this respect, preservation of Article XIV is the key to this process and all the attempts to change it should be considered as disruptive. The international community should not ponder on how to transform Article XIV and find 'loopholes' in the Treaty, but rather to do everything possible to further an active discussion in the remaining countries to support the signing and/or ratifying of the CTBT.