

T.C.
NECMETTİN ERBAKAN UNIVERSITY
INSTITUTE OF SOCIAL SCIENCE
MASTER PROGRAM OF SOUTH ASIAN STUDIES AND
INTERNATIONAL RELATIONS

**NUCLEAR SECURITY TENSION BETWEEN INDIA AND
PAKISTAN**

Özel KÖKTAŞ

MASTER'S THESIS

ADVISOR:
PROF. DR. MURAT ÇEMREK

KONYA – 2021

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Scientific Ethics Page

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Özel KÖKTAŞ

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Bu tezin hazırlanmasında bilimsel etiğe ve akademik kurallara özenle riayet edildiğini, tez içindeki bütün bilgilerin etik davranış ve akademik kurallar çerçevesinde elde edilerek sunulduğunu, ayrıca tez yazım kurallarına uygun olarak hazırlanan bu çalışmada başkalarının eserlerinden yararlanılması durumunda bilimsel kurallara uygun olarak atıf yapıldığını bildiririm.

Özel KÖKTAŞ

FOREWORD

The nuclear security or nuclear war possibility has always been in the global agenda since the World War II. Especially, nuclear tension between India and Pakistan in South Asia has been a subject of research for many academicians and institutions recently. Due to the scarcity of works on “nuclear security issues in South Asia”, this piece intends to contribute to the literature explaining the nuclear security problem and its determinants in South Asia. The subject of this study created as an MA thesis has emerged from “nuclear security issue” between two rivals India and Pakistan in South Asia.

First, I thank primarily my supervisor prof. Dr Murat ÇEMREK for his guidance and tolerance to me. I also would like to thank all the lecturers in the Department of Political Science and International Relations for their contributions. Next, I would like to thank all my previous teachers and instructors for their efforts. I would like to thank my family since they have always been supportive. I also would like to thank my wife with my little daughter for backing me up in this tough process. I regret not spending enough time with them due to writing this thesis. Lastly, I would like to present my gratitude to my colleagues and headmasters having encouraged me throughout the process.

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ACRONYMS AND ABBREVIATIONS

ABBREVIATIONS

RS: Rupees

ACRONYMS

AERB.	The Atomic Energy Regulatory Board
BARC.	Bhabha Atomic Research Centre
CPPNM.	Convention On Physical Protection Of Nuclear Material
CTBT.	The Comprehensive Nuclear Test Ban Treaty
CW.	Cold War
DAE.	Department of Atomic Energy
FSD.	Full-Spectrum Deterrence
IAEA.	International Atomic Energy Agency
IR.	International Relations
J&K.	Jammu and Kashmir
LET.	Lashkar-E-Taiba
MAD.	Mutually assured Destruction
MTCR.	Missile Technology Control Regime
NACD.	Non-Proliferation Arms Control and Disarmament
ND.	Nuclear Deterrence
NFU.	No First Use
NGO.	Non-Governmental Organization
NNWS.	Non-Nuclear Weapon States
NPT.	Non-Proliferation Treaty
NS.	Nuclear Security
NSG.	Nuclear Suppliers Group
NTS.	Non -Traditional Security
NWFZ.	Nuclear-Weapon-Free Zones
NWS.	Nuclear Weaponized States

PAEC.	The Pakistan Atomic Energy Commission
PNE.	Peaceful Nuclear Explosion
PNRA.	Pakistan Nuclear Regulatory Authority
PoNG.	Project on Nuclear Gaming
SA.	South Asia
SWU.	Separative Work Unit
TTP.	Tehrik-E- Taliban Pakistan
WINS.	The World Institute for Nuclear Security
WMD.	Weapons of Mass Destruction



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“The art of war teaches us to rely not on the likelihood of the enemy not coming, but on our own readiness to receive him; not on the chance of his not attacking, but rather on the fact that we have made our position unassailable.”

Sun Tzu, The Art of War

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Abstract

India and Pakistan are two nuclear powers having tensions in their relations since separation. Their several conflicts pave the path for nuclear safety problem in South Asia. India and Pakistan regard each other as the enemy and this attitude shapes their nuclear policies. This study benefits from qualitative methodology through the case-based orientation. It mostly focuses on the nuclear tension between India and Pakistan since the Cold War era. This study aims to enlighten the future nuclear potential of India and Pakistan and contribute literature about the dynamic nuclear policies of India and Pakistan focusing on nuclear security relations through nontraditional security. It also focuses on the Non-Proliferation Treaty's backlash impact on Pakistan and India since Pakistan's nuclear weapon program is shaped against India with mass nuclear weapons. However, both countries have intensified nuclear tension through more complicated and increased nuclear weapons in the region.

Keywords: Security, India, Pakistan, Nuclear Security, Conflict, South Asia

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Özet

Hindistan ve Pakistan, ayrılıklarından bu yana ilişkilerinde gerilimler yaşayan iki nükleer güçtür. Çeşitli çatışmaları Güney Asya'da nükleer güvenlik sorununa yol açmaktadır. Hindistan ve Pakistan birbirlerini düşman olarak görmektedir ve bu tutum onların nükleer politikalarını şekillendirmektedir. Bu çalışma, vaka temelli yaklaşımla nitel yöntemden yararlanmaktadır. Çoğunlukla Soğuk Savaş döneminden bu yana Hindistan ile Pakistan arasındaki nükleer gerilime odaklanmaktadır. Bu çalışma Hindistan ve Pakistan'ın gelecekteki nükleer potansiyelini aydınlatmayı ve geleneksel olmayan güvenlik yoluyla nükleer güvenlik ilişkilerine odaklanarak Hindistan ve Pakistan'ın dinamik nükleer politikaları hakkında literatüre katkıda bulunmayı amaçlamaktadır. Ayrıca, Pakistan'ın nükleer silah programı Hindistan'a karşı kitlesel nükleer silahlarla şekillendiğinden, Nükleer Silahların Yayılmasını Önleme Antlaşması'nın Pakistan ve Hindistan üzerindeki ters tepme etkisine de odaklanmaktadır. Bununla birlikte, her iki ülke de bölgedeki daha karmaşık ve artan nükleer silahlarla nükleer gerginliği tırmandırmıştır.

Anahtar Kelimeler: Güvenlik, Hindistan, Pakistan, Nükleer Güvenlik, Çatışma, Güney Asya

CHAPTER ONE

INTRODUCTION

1.1. Introduction

Throughout the world currently, nuclear weaponized states (NWS) have more than 13,000 nuclear warheads and though the USA and Russia have the greatest portion (almost 95%) while India and Pakistan have just approximately 2,300 nuclear warheads (Kristensen & Korda, 2021). However, the impacts of nuclear weapons are further detrimental than quantities and ratios. Especially comparing the first atomic bombs employed in 1945 with the current ones, one can observe the latter are dramatically more powerful bombs. Briefly, the little boy was 15kt¹ (Hiroshima) fat boy was 22kt (Nagasaki) but today trident is 455kt (USA) and SS is 800kt (Russia) (Mccarthy, 2020). Despite this tremendous difference, first bombs impacts have been on the global agenda for years. Thus, this thesis focuses on nuclear tension between India and Pakistan. Before explaining nuclear security, it would be beneficial to clarify what security is.

Previously, while humans living nomadically, they have not had a security problem except for their lives and personal properties. However; with the settlements following the Agricultural Revolution, security term has gained fairly much significance. Security, according to the *Cambridge Dictionary* (2020), means safekeeping of an individual, structure, company, or state against menaces like illegal acts or assault by outsiders. In other words, individuals create plans to maintain security while organizations are in need of protection against any dangers or situations. (Wu & Meng, 2018:77).

Security is such a basic need for a human that Maslow puts this in the second place in his hierarchy. He adds that if a human meets food need, s/he will be in search of safety, while he defines the success of any community with its ability of sustaining of security (1943:376-379). Since security as a concept is one of the most

¹ an explosive force equivalent to 1000 tons of TNT,
a kt= 1000 tons, 15kt=15000 tons

pivotal cornerstones of human psychology, it directs people's way of perception and reactions to events either negatively or positively (Maslow, 1942: 335-337).

Security has some variations and meanings in different contexts. For example, according to Giddens (1985: 218), ontological security emerges as a concern when people's social life is either restricted or interrupted by events like sequestration mostly by the ruling actors. Moreover, Ontological security endorses the corporeal presence of a state however firstly the state pays attention to the way it views its own then the way the others regards it. (Steele, 2008:2-3). Thus, a state could endanger the citizens' ontological security as it prioritizes its own interests.

Human security also called the Non Traditional Security (NTS) is another phenomenon that has gained popularity after the Cold War era. Namely, instead of the state security, the NTS has focused on the well-being of individuals with humanitarian issues such as social, political, economic, environmental, health (Human Development Report, 1994:22-23).

In International Relations (IR) as an academic discipline, security is interconnected to politics emerging as its main element from political conflicts, since once political stakeholders intimidate or use violence to urge what they need from one another (Kolodziej, 2005:22). According to Latif and Khan (2011:31) since the traditional security approach mostly pays attention to states, it cannot explain complicated problems like extremist groups without the NTS approach including the interdepartmental cyclical link like army-economics, diplomacy-economics etc. As Adler and Greve (2009:64) mentions security has various meanings depending on the concomitant theories: It means for realists, power and dominance; for neoliberals, well-organized foundations; for constructivists, the function of notions in convincing governments and for postmodernists, using force and distant control.

Although there are different theories on the issue of the nuclear security (NS), the concept of power in realism is directly related to this issue. For example, as in the case of Pakistan, nuclear power refers to the state's use of force or deterrence against its rivals. In addition, since realism fundamentally explains international relations (ir) with power, such theoretical framework shapes this thesis in this regard.

The NS issue has come to IR agenda since the Cold War. According to *the Collins Dictionary of Law* (2021), the NS is the safekeeping of nuclear sites apparatus and technical knowledge about nuclear materials and their preservation. According to the International Atomic Energy Agency (IAEA, 2020), the NS process is the global administrative structure largely based on the protection of nuclear apparatus, radioactive materials, safe transportation of nuclear resources and preservation of nuclear sources from malicious groups.

Due to the global concern, this thesis focuses on the tension between two nuclear powers, India and Pakistan regarding the NS in the South Asia (SA). States create nuclear power either for their self-defences or regional defences to function as deterrence against other states. After 9/11, security requirements have arisen from reasonable to alarming levels all around the world. Nuclear energy or nuclear power is essentially dangerous. Chernobyl and Fukushima nuclear disasters have led people and even nuclear powers to think about the importance of the NS. The losses of lives and properties have lasted for years regarding the NTS factors such as cancers and deterioration of the environment. Accordingly, though the Chernobyl disaster took place in Ukraine in 1986, it has been mentioned in the *BBC News* that thousands of people have died or suffered from the artefact of the catastrophe in that country even two or three decades later (Gray, 2019). That indicates such nuclear disasters have negative impacts on climate damaging human life even decades later. Thus, nowadays, plenty of nations see influences of climate change as a security problem; even though very few of them consider their armies to be among typical primary-responders to the environment-correlated disputes (Dumaine & Wintzer, 2015:12).

In SA, two nuclear powers India and Pakistan have been in conflict since their sovereignty endangering the NS regionally and globally.

The events accompanying the partition of Britain's Indian Empire into two independent states in 1947 shaped Indian and Pakistani security environment. After a mass of immigration of Hindus and Muslims to New Delhi's and Islamabad' line has caused lots of trouble in SA with the inclusion of a disputed area of Kashmir (Ahmed, 1999:180). The bureaucratic system left over by the British also caused a problem in governmental issues both in Pakistan and India since 1950s. This has

increased nuclear war possibilities in the region due to their hostile manner to each other. A similar issue like Kashmir dates back to the partition of India to create a Muslim country Pakistan with the aim of maintaining British advantage in the region against Russia using Muslim brotherhood. However, the Public Information Specialist (PIS) of Jammu and Kashmir (J&K) has not accepted to be part of Pakistan (Hingorani, 2016:91). In 1947, the Kashmir problem arose due to its Hindu ruler Maharaja's wish to be a sovereign state and not to be a party of neither India nor Pakistan. This long lasting wish has not come true yet on the other hand (Mahmood, 2001, 9).

In SA, some other internal and external factors have a direct influence on NS. The regional dispute of Kashmir conflict has been a lively question between New Delhi and Islamabad for a long time increasing the tension between these two nuclear powers. This conflict also triggers their competition to gain nuclear superiority over each other. India and Pakistan have had three wars² two of them were because of Kashmir conflict (*The Times Of India*, 2021).

Thus the beginning of Pakistan's nuclear policy has been India-centric, focusing on any possible threat from India. Initially, the United States (US) had supported Pakistan against China paving the path for Pakistan to become a nuclear power. Therefore, in 1957 the Pakistan Atomic Energy Commission (PAEC) was established to train nuclear scientists and to set up a nuclear research reactor. Since 1986 civil nuclear agreement, China has maintained its nuclear support for Pakistan to prove its nuclear supply capabilities and China has also built a few reactors in Karachi for its ally Pakistan against the US-backed India (Sethi, 2021).

Although Indian nuclear policy has earlier started against China at the beginning, later on due to the conflict with Pakistan it has also been shaped against Pakistan. Hence, in 1954 Bhabha Atomic Research Center (BARC) was built to develop nuclear assets with the generous aids of Canada and the US. Accordingly, the US has also kept aiding India on civil nuclear capabilities till the end of the first

² 1947-1948 and 1965 Kashmir Wars and 1971 political reasons about East and West Pakistan against India (*The Times of India*, 2021).

decade in the millennium since the American Congress provided an exception for India via The Nuclear Suppliers Groups (Bajoria & Pan, 2010).

On the other hand, to follow its nuclear program New Delhi was in cooperation with Washington officially and unofficially. On the other hand, to decipher the responsive connection, Islamabad had army relationship with Beijing at the end of the 1990s (Ahmed, 1999:179). These rival groupings of American-Indian and Chinese-Pakistani are made to counter defence against one another. Nuclear programs or nuclear capabilities of these two rivals have increased triggering the NS threat in SA. These actions seem to bring advantage both to India and Pakistan, however; they endanger the NS in SA, owing to determination in increasing their nuclear capacity.

The Non-Proliferation Treaty (NPT) has paradoxically endangered the NS in the region though it has been created to maintain the NS. Because, New Delhi has refused to sign the treaty and kept producing its own nuclear weapons, in response, Islamabad has not signed either (Graham, May 1998:3-4). In addition, the NTS problem also increases the NS threat due to the continuous great deal of spending on nuclear testing or missiles triggering nuclear capabilities and war possibilities in the SA (Lavoy, 1999: 33).³

Kashmir issue has always been the significant conflict between India and Pakistan for which they have fought with each other even before acquiring nuclear weapons. Since 1950s, India has intervened the political issues in Kashmir and deployed its army. Accordingly, nowadays young people via technologies or applications have been resisting India in Kashmir (Mahmud, 2012:2-3). Thus, in 2019, Imran Khan, Pakistani Prime Minister, warned India about conventional war risk, furthermore, he mentioned the world may suffer in the case of nuclear war (*Al Jazeera*, 2019). This manner of the latter increases the tension between these two nuclear powers implicitly escalating the NS risk in the region.

³ The expenses may meet 25% of Indian pupils' expenses and nearly all of the pupils in Pakistan. Since NTS issues include common wealth of people regarding spending on nuclear weapons that brings about poverty among people in both states (Lavoy, 1999:31-33).

With reference to past events, SA has experienced some terrorist attacks and especially India and Pakistan have had trouble with such various terrorist attacks. However, they have a different view on terror issues ignoring “proactive approach”⁴ and they are not willing to handle these issues but to blame each other as in Kashmir issue (Fayyaz, 2009:2-3). For instance, the Uri attack in 2016 has led India to use fighter jets against Pakistan escalating the tension (Yusuf, 2019). Due to this tension India has threatened Pakistan with nuclear missiles and Pakistan has responded in the same way (Miglani & Jorgic, 2019). Consequently, the NS threat has always been on the agenda in SA since India and Pakistan have nuclear weapons and keep increasing both in numbers and in effect. Accordingly, the US has been anxious about Pakistan in the 2010s and severely warned this country due to the increased risk of nuclear weapons theft by extremist groups for mass killing (Borger, 2010). In short nuclear policies of both India and Pakistan have turned out to be dynamic because of their on-going conflict in SA.

1.2. Purpose of Study

Since the nuclear bomb attack in Hiroshima and Nagasaki by the US in 1945, people have been quite anxious about weapons of mass destruction (WMD). In SA, some crucial reasons such as the impact of NTS, Kashmir dispute between India and Pakistan, their rivalry against each other with nuclear weapons and the backlash of the NPT all bring about the NS as a problem in SA. This thesis benefits from realist theory to clarify nuclear tension and nuclear expansion in SA while explaining the independent variables playing crucial roles on NS in SA and world politics. Looking for an explanation of NS and NTS in SA, this thesis aims to fill gaps about the nuclear potential of India and Pakistan in the future. It also aims to contribute the literature about dynamic nuclear policies of India and Pakistan increasing their nuclear weapons as well attracting attention to the NPT’s backlash impact.

⁴ Intending or intended to produce a good result or avoid a problem, rather than waiting until there is a problem (*Cambridge Dictionary*, 2021)

1.3. Research Questions

Research questions are “What factors explain the NS tension in SA best? What are the NPT’s impacts on India and Pakistan? What waits for the future of South Asia and the world due to nuclear weapons? Why Indian and Pakistani nuclear policies are dynamics? Why nuclear arm race creates potential survival threat in the region? What are nuclear potentials of India and Pakistan today and tomorrow?”

This work explains two rival states of India and Pakistan with crucial variables. Independent variables are NTS impact on NS, the NPT’s backlash effect on the nuclear arms race between India and Pakistan, in addition to their correlations with the NS issues in SA. Nuclear powers of India and Pakistan are also independent variables causing the NS problem in SA. NS is dependent reliable that is volatile and influenced by the independent variables aforementioned.

1.4. Hypotheses

In line with the aforementioned objective of research and theoretical framework, this study purposes the following initial assumptions:

Hypothesis 1:

The nukes' NTS impacts increase NS tension in SA.

Hypothesis

The dynamic nuclear policies of India and Pakistan will increase their nukes number today and tomorrow leading the NS threat in the region.

Hypothesis 2:

The existence of the NPT motivates both India and Pakistan to produce nuclear weapons causing the NS problem in SA today.

1.5. Main Theme and Problematique

This thesis attempts to show how NS problems occur between countries by analysing them between India and Pakistan. The research is conducted through theoretical studies and related literature about nuclear programs and treaties. Throughout the research, we use qualitative methodology taking India and Pakistan

as a case study on NS risk in SA. The conduct of archival research enables generating of important data from documents, records including electronic records, objects, sound and audio-visual materials, or other materials.

In addition, theoretical base analysing data about the NS aids to determine the current situation regarding the NS threat in SA.

The qualitative research is to analyse necessary data to discuss the subject matter. Such type of data collection is based on books, journal articles, official and Non-Governmental Organizations' (NGOs) data and statistics as well as online sources discussing NS issue in SA. In data collection, books, journals, online archives, newspapers are used to draw attention to the NS issue in SA. After collecting data and conducting analysis, they are considered to prove that NS is a quite significant paradigm today and will be in the future of both in SA and IR discipline.

Initially, India and Pakistan as nuclear powers are explained. Hence, their nuclear stories are mentioned briefly to focus on NS threat between them. Thus, this study aims to be a reference source for future researchers investigating the variables of nuclear policies, types of nuclear weapons, major and minor nuclear states, and the impact of the NPT and NTS on NS threat in SA.

This thesis focuses on the Asian continent, specifically South Asia, and significantly on India and Pakistan trying to evaluate its convergences in the global world. This has enabled the subject to be processed more specifically through a few similar studies in other regions or countries in the world. Consequently, this thesis examines the aforementioned conjectures in the coming chapters: Chapter 2 concentrates on the theoretical perspective and definition of deterrence theory and its relation with India and Pakistan. Chapter 3 mentions the historical background of the NS threat to clarify the topic not only in a regional perspective but also in global perspective Accordingly, NTS and its impacts on NS are clarified. Chapter 4, the major part of the thesis, deals with the emergence of a NS issue with the acquirement of nuclear weapons by two rival states in detail and their nuclear programs. Chapter 5

focuses on the NPT and its impacts on nuclear progress in both India and Pakistan. Also, it focuses on the impacts of the NPT on NS threat in SA.

This research is to contribute to the literature about NS threat in SA through Pakistan and India indicating states' fragile in their decisions though they determine the regional and/or global agenda.



CHAPTER TWO

THEORETICAL FRAMEWORK

2.1. Realist Viewpoint

Pioneering realist, Machiavelli expresses the importance to be strong against the opponents exemplifying the success of Italian leader Ferrara against invasion by Venetians in 1484 and Pope Julius in 1510 (Machiavelli, 1515:2). He also strikingly illustrates that force is to be used by people against opponents to maintain security. For instance, even armed religious leaders were successful in their mission thanks to the power, yet the moderate ones were failed and disappeared (Machiavelli, 1515:25).

Another pioneer of realism, Hobbes (1651/1881:91) states that either people have to be powerful over opponents or the security problem will arise since the defensive stance will not long last. According to him emergence of states depends on people's security need, as he puts forward that people give up committing violence when they are protected by the state from foreign invasions or threats (Hobbes, 1651/1881:121-122). Zimmern (1923:116), on the other hand thinks rather than the interests of countries, their actions and strategies create problems, so the process of being international is essentially supporting countries' interaction with one another. There is a term as *Non-alignment* used for the combination of the state and the people sustaining safety and nonviolence thus, the *disarmament* process is quite significant especially for WMD like nuclear weapons for a tranquil life (Noel-Baker, et al, 1970:343-346). Philip Noel-Baker (1977:18-20) draws attention to the huge expenses of armaments and destructive impacts of the nukes adding states disarmament would eradicate ignorance throughout the world.

According to Morgenthau (1969:13), it is possible to stop the atomic weapons race in two ways: Firstly, limitless nuclear weapons are not rational when the states have atomic potentials like the USA and the Soviet Union. Secondly, regarding the atomic weapons as political means are not rational due to revenge threats with catastrophic

impacts. Sustaining the balance of power in Europe against Soviet Russia is not probable without nuclear weapons and American aid (Morgenthau, 1969:174).

Power could appear thanks to the coactions of humans with the high standard of people deeds, not with economic tools or arms (Morgenthau, 2012/1933:47). Also, Morgenthau correlates human nature with self-defense and demonstrating oneself (Ibid. 49).

In global politics, power is perpetually the crucial purpose (Morgenthau, 1948:13). Although the tremendous growth of power endangers peace, it is possible to sustain peace by effort for dominance in the transnational arena via the balance of power and universal legislation-ethics and public belief (Ibid. 8-9).

National and global politics have triad purposes over power such as possession, boosting and exhibition of it (Morgenthau, 1948:21)

After World War I in 1914-18, international relations appeared as a discipline to investigate the reasons and outcomes of the facts (Carr, 1946:1-10). With being a means of force over the opponent countries, the realist tenet is the government's wish so, it is the powerful ones' ammunition against the weaker states (Ibid.176). Carr (1946:63-64) restates Machiavelli's thoughts of realism in three pivotal points: First, realists believe sophisticated endeavours to investigate the past that is a chain of reason and result. Next, they implement the theory. Finally, they regard politics as the morality of politics.

According to Waltz (1979:95-96), States synergies shape universal politics form; furthermore, distinct nations' acts have always influenced independent countries Lack of states (anarchy) and the existence of them is linked with extremely forceful actions such as brutality and violence (Waltz, 1979: 102-103). When anarchy is defined as turmoil, devastation, and loss, there is not much difference between

anarchy and government⁵ (Ibid., 103). Turmoil and war are unavoidable because equilibration of *power* is possible only with *power* (Niebuhr, 1952:4).

According to Waltz (2001: 35), power appears in two ways: First, it is a tool for the survival of the nations and second, it emerges due to a dog-eat-dog world and anarchy. The presence of distinct dominant states will always be correlated with the battle (Waltz, 2001: 238). Although states have various wishes like conquering, being dominant or independent, their joint purposes are to survive (Ibid., 203).

Before nuclearization, states tried to be dominant power with infinite force and the arms race to reach security. With the nuclear age, neither nuclear-capable states nor the rests are always in secure, since the rest are in need of nuclear-capable states' protection (Herz, 1981:188). Previously sovereign states used to trust their power to maintain their positions and benefits in war. Later, with nuclearization, several major atomic powers could perish the rest of the world by endangering their survival with possible revenge (Herz, 1960:36). That shows the destructive and untrustworthy traits of nuclear weapons for both NWS and NNWS. Development of extermination means probably has led to the emergence of world politics (Herz, 1960:36). Because of the atomic era, a “*new balance of power*”⁶ and “*bipolar policy*”⁷ including infinite arms race have emerged (Ibid.39).

Being dominant over the other states is the top assurance to survive due to its intimidating impact on the rest so states race one another to reach power (Mearsheimer, 2001:3-18). *Anarchy* and dispersion of force are subjects determining global politics and “*offensive realism*” considers global regime immensely arranges the states' actions (Ibid. 10).

⁵ For example, as a result of *China's Taiping Rebellion* more than 15 million people were dead. *In the American Civil War* hundreds thousands of citizens died. *Stalin* slaughtered *five million* people in Russia.

⁶ As Khrushchev mentioned in his speech in 1959, it is the equilibrium between *East and West* including power of *peace and war* (Herz, 1960:35).

⁷ Bipolarity is, briefly, alleged superpowers and two great alliances' system and way of thinking dominance over minor regional alliances (Ibid.39).

Krasner (1999:3-4) identifies quadruple sovereignty terms:

1. *International legal sovereignty* indicates bilateral identification in applications among regional units.
2. *Westphalian sovereignty* cites a diplomatic structure relying on eradicating foreign parties out of administrative formations in a settled area.
3. *Domestic sovereignty* points out the legal structure of political power in the country with governmental officials' adequate supervision conduction in their country.
4. *Interdependence sovereignty* mentions governmental officials' control of the knowledge notions, assets, individuals or metropolis abroad.

Dominant powers⁸ use hard-power when they have interest or profits (Krasner, 1999:224).

According to Huntington (1993:29), developed societies conflicts emerge in two ways: First, neighbouring gatherings try to administrate the region and themselves mostly forcefully. Second distinct countries race to obtain army and financial strength via administrating global organisations and other groups to develop governmental and spiritual esteems. For instance, to preserve its advantages over the East, the West needs to sustain its financial and army strengths (Ibid.49).

Deterrence is also an important theory in realist view for the survival of the states.

2.2. Deterrence Theory

Deterrence is related to affecting possible rivals' advantages and disadvantages analysis, threat evaluation with resolution stage (Peters, Anderson, & Menke, Winter 2018). According to *Cambridge Dictionary* (2021) deterrence means the activity or the action of preventing individuals from doing something. Before

⁸ American military intervention to reorganize the governmental issues in *Cuba, Haiti, the Dominican Republic, Nicaragua, El Salvador, Panama* etc.; similarly, *the Soviet Union, in Poland, Romania, East Germany, Bulgaria, Hungary, and Czechoslovakia* (Krasner, 1999:224).

nuclear age, deterrence has been shaped by states' strength however; in the nuclear era deterrence has changed dramatically with nuclear weapons because even small nuclear bombs may create catastrophe in case of their use against stronger NWS for retaliation (Brodie, 1959:176-179).

Classical deterrence theory appeared during 1945-1960 with two great powers of the US and the USSR nuclear race. However, perfect deterrence theory popular later on is related to powerful and weaker nuclear or non-nuclear states' conflict of interests (Zagare & Kilgour, 2000:1-6). Primarily deterrence theory puts forward that NWS generally ought to face hardly any oppositions, because their nuclear capabilities will prevent NWS from their possible rivals and problems (Horowitz, 2009:240). The fundamental components of the theory are regarded as the assumption of a very severe conflict, the presupposition of extremely intense dispute, revenge threat, intolerable harms, the thought of trustworthiness and deterrence equilibrium (Morgan, 2003:8). Owning nuclear weapons can be very effective in certain conditions, e.g. they can provide balance of power for weaker states against superior ones. (Posen, 1993:39-44). Despite their various conflicts Americans and Russians have maintained perpetual peace thanks to nuclear weapons. However, an exponential rise in nuclear weapons has brought about nuclear war concern in the world (Sagan, 1994:66).

Waltz (1988:625-626) claims that with the deterrence of nuclear weapons the World War III possibility is lower due to consequences of the World War II consequences, thus a state has to think twice before using nuclear weapons not to be perished in case of revenge by the opponent states. He also adds, it is nearly impossible to have a great war between NWS (Ibid, 627).

The US effective deterrence has three crucial dimensions such as providing confidence to inhibit probable attacker, emphatic manner and being prepared for the attackers also using self-potential effectively against a threat (Osinga & Sweijs, 2021:27). In earlier years, nuclear deterrence (ND) has been perceived as a tool to prevent major wars between states though, currently, it has lost reputation and nearly all NWS including Pyongyang keep nuclear weapons not for deterrence but because of defense reason (Ifft, 2017:6-7).

In the ND theory, a great unlimited nuclear assault threat results in either perishing of both states or either one's attack earlier than the other leading to a war (Powell, 1985:76). The ND is based on a nuclear attack threat, as conducted it may be costly for both threatener and the threatened so policymakers act cautiously to balance the crisis (Lyon, 2019:10). India benefits from encouraging adversary restraint giving clues about cost and benefit for the opponents' inactivity and mostly used by the USA though. Also, India with the No First Use (NFU) declaration against Pakistan will not use nuclear weapons as long as Pakistan does not use them (DOD, 2006:27). This indicates the opponents' perception is shaped by the pros and cons before attacking. Three main groups have different views on ND:

- Supporters' claiming it always works to prevent great wars
- Opponents against ND due to severe outcomes of nuclear arsenals
- People regarding ND as hazardous for the world despite reasonable impacts (Spiegeleire, Holynska, Batoh, & Sweijs, 2020:27).

Based on research analysis, the Project on Nuclear Gaming (PoNG) forms a strategic game using ex-war gaming procedures such as comprehending political-army matters in addition to deterrence to predict the outcomes of massive wars especially nuclear ones (Mohan, 2019:34-35). If two states have nuclear weapons to attack each other they both ought to trust in deterrence to protect themselves since the nuclear attack cannot be prevented (Kroenig, Winter 2013:144). This statement has turned out to be a fragile process in South Asia, since India and Pakistan have increased their nukes gradually. In 1998 Pakistan used to defend minimum deterrence including limited nukes (60-70). Later it has followed credible ND (increase in certain ratio) to expand its nuclear arsenals against NWS India (Chakma, 2013:1). The phrase "minimum" is meant to minimize the hazards of carelessness and abuse of nuclear weapons, the term of credible has been included later either to feel secure or have a loophole to create nukes (Altaf, 2015).

Due to India's conventional nuclear capabilities and financial superiority with bigger army than Pakistan's own, Pakistan has focused on tactical nuclear weapons to sustain minimum credible deterrence against India (Khan Z., 2013:10-18).

Pakistan has shifted from strategic deterrence to full-spectrum deterrence (FSD) since it thinks the first usage of tactical nuclear weapons against India's border violation would prevent conventional war between them (Abdullah S., 2018). The tenet of FSD basically implies having a total extend of weapons with sufficient delivery in all three categories strategic, operational and tactical to reach all Indian targets of a striking distance (Syed, 2017).

According to Abdullah (2020), FSD has five crucial impacts:

- Pakistan's refute to NFU and raising its nuclear attack capacities may lead to possible nuke usage, so the nuclear war
- Pakistan could envisage succeeding "escalation dominance" in a dispute with India
- Pakistan could ensure efficient revenge from India's massive retaliation
- FSD has decreased war possibility in SA
- Pakistan's successful sea-based missile (the submarine-launched cruise missile (SLCM) Babur-III) has given Pakistan a chance to second strike with the third strike as retaliation.

India has the Cold Start doctrine (restricted battle) including army intervention and assaults Pakistan without provoking Pakistan's nuclear stance. However, Pakistan may use nukes in retaliation for such interventions, since they may create a backlash, nuclear calamity may appear in SA (French, 2016:106).

India's first deterrence regime was mostly based on the Draft Nuclear Doctrine (DND-mild not aggressive, 1991) including India's nuclear retaliation against nuclear or mass weapons. However, lately the Indian ND has turned out to be Credible Minimum Deterrence (expansionist and more aggressive) (Abbasi, 2015:72-73). According to the Draft Report of National Security Advisory Board on Indian Nuclear Doctrine, New Delhi's nuclear deterrent has three basic guidelines:

1. Credibility: Any foe should remember that India can and will counter with adequate atomic weapons to create devastation to the attackers in case atomic weapons are utilized against India and its forces.

2.Efficiency: The deterrence success would be optimum with the cooperation of all factors including credibility, punctuality, correctness and power of the strike

3.Survivability: In case of an unexpected strike India would respond quickly and deploy nukes for retaliation as a punitive second strike. Nukes' usage would not be prevented; it would be continuous for effective nuclear strike. (Mishra, 1999:3)

Due to New Delhi's vigorous nukes initiatives, Islamabad's nuclear policy and force stance advanced from minimum credible deterrence to credible minimum deterrence in compliance with the principles of FSD (Abdullah S, 2020).

For retaliation mutually assured destruction play significant role to deter the nuclear capable rivals.

2.3. Mutually Assured Destruction (MAD)

Robert Oppenheimer (1953: 529) has expressed the severity of the Mutually Assured Destruction (MAD) in a striking way with the scorpion⁹ analogy for two great powers Soviet Russia and the USA shortly after WWII in 1953. Till the end of the 1950s the USSR and the USA have increased their nuke capabilities so much that even if either one attacks firstly, it cannot destroy all of the other's nukes (Lieber & Press, 2006:44).

Although the MAD is designed to revenge from the attacker NWS with larger nukes if the nuclear war happens it would not be successful as deterrence (Becker, 2013:8). Due to the triple capabilities of nuclear weapons including aerial nukes, land-based intercontinental nukes and sea-based nukes like submarines, the MAD term came into the agenda in 1960s (Jameson, 2013:42). However, the MAD seems to be outdated because of the developed cities and probable strike or reprisal to modern cities, therefore new NWS like India and Pakistan would likely attack centres rather than the whole country (Delpech, 2012: 37).

The nuclear arms race between major NWS has led to unmanageable war skills possibly causing costlier and more devastating than the previous two World

⁹ For NWS the Soviets and the USA: They are like two scorpions in one bowl either one can kill the other only if either risks its own life.

Wars (Cordesman & Hwang, 2021:31). Thus, till today major NWSs have either limited or decreased their nukes productions however, India and Pakistan have increased contrarily. India's early deterrence regime used to depend on minimum deterrence consisting of NFU with uttermost revenge and the most effective revenge strike is submarine nuclear weapons among triads(land-aerial-sea) due to their undetectable trait (Singh C. A., 2020). However, the platform is not enough itself, since range and accuracy of the nukes are also important with ongoing presence in the sea (Ibid).

Russia and the USA signed several treaties to decrease nuclear weapons or their deployments. They signed the new Strategic Arms Reduction Treaty (START)¹⁰ in 2011 and the Strategic Offensive Reductions Treaty (SORT)¹¹ in 2020 to reduce their nuclear forces despite allowing a great number of tactical nuclear weapons (Kane & Reif, 2013). Taking this treaty into consideration Pakistan also has the potential to increase the deployment of tactical nuclear weapons against India's aggressive manner (Khan Z., 2013:9). Because of Indian ongoing nuclear development and Pakistani nuclear development like a sea-based missile (Babur 3), ND is not steady but dynamic in SA (Tasleem, 2016). MAD could be neutralized by nuclear shift for example beginning with power like North Korea then bringing about the involvement of dominant powers like the USA and China (Cordesman & Hwang, 2020:25). Such situations are likely to occur because of Indian and Pakistani nuclear conflict with the involvement of two of the major NWSs the USA and China.

¹⁰ New START is a replacement of the Strategic Arms Reduction Treaty (START I) signed between the US and Russia in 1991. It ended in 2009. START I includes reductions in both states' stockpiles of deployed warheads and delivery systems(Ibid).
START 2 includes: -Both (USA-RUSSIA) can have a maximum of 700 deployed nuclear weapons delivery systems (missiles and bombers)

¹¹ They decreased their deployed nuclear warheads numbers between 1,700 and 2,200 and did not limit their nuclear delivery systems. It ended in 2012(Kane & Reif, 2013).

Table 1 Four Theories in Military Doctrines

Theory	Key Influence/Logic	Prediction	Pakistan	India
Realism	Strategic environment	Conventional superiority: no first use:(NFU) Conventional inferiority: first use (FU)	FU limited nuclear options (LNOs) Counterforce targeting (CF)	NFU invulnerable Second strike forces Counter value targeting (CV)
Organization Theory	Parochial interests and bias of military	Offensive CF and FU, preventive war, decisive options, budget promotion and goal displacement	Military autonomy increased bias	Strict civilian control limits biases
National Strategic Culture	Historical experiences/cultural traditions	Unique to each country	Islam as a force multiplier; martial race base	Postcolonial distrust of military; Gandhian nonviolence
Global Strategic culture	Imitation of most modern prestigious actors	Isomorphism	Mimic U.S. doctrine?	Mimic U.S. doctrine?

Source: Sagan, 2009:228.

Table 1 briefly summarizes the Pakistani nuclear policy inspiration comparing with India. It also indicates a weaker nuclear potential state may use the nukes first use (FU), though a stronger nuclear potential state uses the nukes as retaliation for the second strike (NFU). Thus, with conventional nukes India accepts NFU (MAD

against Pakistan) but weaker Pakistan refuses NFU for its security against the opponent.

Sagan (2009:221-224) clarifies the functions of army principles according to realist theory such as:

- army and civic combination deciding on state's security against external menaces,
- organization principle caring about not only the security of the state but also army leaders fame and dignity,
- national strategic culture including past, spiritual beliefs and opponent armies,
- global strategic culture containing global forms of bodies and criteria like major NWS (USA) influencing decision-makers on nukes.

Since atomic tactics mostly take advantage of the MAD theory improving second-strike capabilities as retaliation. However, Mark Jefferson states, thanks to tactical nukes states do not endanger their own citizens but threaten the opponent targets (Bensaid, 2019). This implies the reason why Pakistan increases its tactical nuclear weapons against India.

This section has pointed out the notions of the realist pioneers in its realm. States and power with balance of power plays crucial role for states' security in realist theory. This section has also mentioned about ND theory and MAD and their relations with India and Pakistan. Such theories are based on realist theory defending survival of the states. Next section will concentrate on both the NS and its correlation with India and Pakistan and the NTS.

CHAPTER 3

NUCLEAR SECURITY AS A NON-TRADITIONAL SECURITY

3.1. Nuclear Security

Nuclear Security (NS) is by and large known as a phrase meaning the inhibition-finding and discovering of reaction to larceny, destruction, illegal reach and illicit transport; along with additional dangerous and harmful behaviours including atomic substances, further radioactive substances or their associated facilities (International Atomic Energy Agency, 2011:1).

Historically NS problem occurs as follows: Berlin's atomic plan during the 1940s has given rise to Washington to own atomic arms. Washington's atomic plan has triggered Moscow, Beijing and Pyongyang to possess nuclear scheme. Moscow's possession of nuclear plan has rendered London, Paris and maybe Cape Town to initiate atomic schedule. Beijing's atomic potential has brought about New Delhi to have the nuclear capability. Due to the nuclear danger by New Delhi, Islamabad has initiated to reach nuclear potential (Reiter, 2014:62). This list shortly summarizes the born of NS matter both in the world and in SA as well, in realist theory, in as much as the states regard nuclear capabilities as a power to sustain their security, they have acquired nuclear programs against one another. Although the UK tried to produce nuclear weapons earlier, it created them in 1952 after the USA in 1945 and Soviets in 1949 due to lack of labour force (Barry, 2017:2). Security is about defending ones' territory against outsiders with the aid of atomic arms by NWS, as in the sample of the atomic bombs given to London by Washington since 1950s. As Reiter (2014:62) mentions in his article, when a country is under threat and maintains safety pledges, it decreases the jeopardy of renunciation, although it raises the jeopardy of the plot.

In view of raising NS threat, the foundation of the World Institute for Nuclear Security (WINS), announced by the former Senator Sam Nunn, to control nuclear risks thanks to the participation of knowledgeable people all around the world (Arnaudo, 2008:39). That clearly shows the severity of the NS issue since nuclear weapons have the mass killing capacity, the world does not regard this as a regional issue as India and Pakistan do but the global one. Accordingly, Laura Holgate, senior

director for WMD terrorism and threat reduction expresses the importance of NS meetings all around the world and she also adds that such summits ought to go on (Horner & Davenport, 2012:27). In Asia, tensions between India and Pakistan have raised the NS problem in the region and even outsiders pay attention in a transnational manner to this problem.

Table 2 2021 Approximate World Nuclear Weapons

Country	Deployed Strategic	Deployed Nonstrategic	Reserve/ Nondeployed	Military Stockpile	Total Inventory
Russia	1,600	0	2,897	4,497	6,257
United States	1,700	100	2,000	3,800	5,550
France	280	n.a.	10	290	290
China	0	?	350	350	350
United Kingdom	120	n.a.	75	195	195
Israel	0	n.a.	90	90	90
Pakistan	0	n.a.	165	165	165
India	0	n.a.	160	160	160
North Korea	0	n.a.	(40)	(40)	⁽⁴⁰⁾
Total:^s	~3,700	~100	~5,790	~9,590	~13,100

“Deployed strategic warheads” are those deployed on intercontinental missiles and at heavy bomber bases. “Deployed nonstrategic warheads” are those deployed on bases with operational short-range delivery systems. “Reserve/Nondeployed” warheads are those not deployed on launchers and in storage (weapons at bomber bases are considered deployed). The “military stockpile” includes active and inactive warheads that are in the custody of the military and earmarked for use by commissioned deliver vehicles.

Source: Kristensen & Korda, Status of World Nuclear Forces, 2021

Table 2 shows Russia, USA, France and the UK are quite dangerous since they have deployed their nukes meaning ready to use. Another important problem is the increase in the nuclear bombs of India and Pakistan because they are enemies to each other. Especially Pakistan is very eager to use nuclear weapons against India so it keeps producing tactical nukes deployable on battlefields.

NS issue has been on the Western agenda for South Asian states such as Pakistan since it has endangered NS four times due to terrorist attacks near its

nuclear storages since 2007 (Davenport, 2012). Though Pakistan asserts that they transport their nuclear weapons in a quite secret way, when their own members wish to sell these to foreigners or share information about its construction or deployment places, this may open a path to terrorists to get the nuclear bombs (Mowatt & Larsen, 2009:9-10). Although there has not been an assault on nuclear facilities in India yet, because of the air raid on the Indian military base and air force base by terrorist groups, a likely nuclear attack risk has increased in SA (Observer Research Foundation, 2016:14). India has lately been under nuclear security threat by inner extreme leftist group (Naxal)¹² and external terrorist groups like al-Qaeda intending to get Indian atomic weapons (Ibid:14). Thus this may create a NS matter both regionally and globally as well. Pakistan's concerns and mistrust on America's interference into the country cause the latter one to take precautions for nuclear assets in the international arena but Pakistan disregards the domestic dangers like terrorist groups. (Khan, 2009:12-13) Explicitly, this indicates the NS risk has been going on in the region.

Nuclear safety, on the other hand, includes separated safeguards of the case of a nuclear crash and its continuity (Petrangeli, 2006:89). This is another aspect of the NS question since the NWS in SA such as India and Pakistan have continued to improve their atomic bombs and tests. Thus, that endangers first SA than the entire world as in the Chernobyl and Fukushima disasters even though they are not related to atomic bombs. Despite the fact that the IAEA is the guarantor for the NS in the world, it has difficulty in arranging nuclear facilities in SA especially for India and Pakistan since they are willing to increase their nuclear weapon quantities mutually (Weitz, 2011:63). Actually these two rivals primarily pay attention to their own security though, they disregard the NS problem in the region.

According to the realist theorists, when the countries have a conflict of benefit; then it is normal for them to compete in financial, martial, diplomatic or societal (Qumber, Ishaque, & Shah, 2017:73). Taking that into consideration India and Pakistan compete in Kashmir dispute and nuclear superiority against each other.

¹² Communist militant group. Even though they mostly run after their ideology nuclear attack possibilities should not be disregarded. (Observer Research Foundation, 2016:16)

In 1947, the Kashmir problem arose due to its Hindu ruler Maharaja's wish to be a sovereign state and not to be a party of neither India nor Pakistan. However, it has remained a long-lasting unresolved issue increasing the NS tension between India and Pakistan (Mahmood, 2001:9, Fai, 2012/2013:4, Hingorani, 2016:91, Alam, 2010:45, Schofield, 2008:83-84.).

Because of its political and religious beliefs, Pakistan has aided extremists Muslim groups in Kashmir against India and India with its troops has not wanted to retreat from there. Pakistan's atomic power has changed the notion of Indian holistic control over Kashmir. Hence, the Kashmir issue has accelerated New Delhi's and Islamabad's nuclear nukes expansion. Strategists also view this as an atomic crisis (Abdullah M., 1965:528, Hilali, 2001:48-54, Khan M. S., 2010:237, Desai & Basit, 2012:9, Lalengkima, 2013:121) Thus, the Kashmir conflict has increased the NS threat in SA. During the time almost one and half million soldiers from India and Pakistan and their atomic weapons have been alarmingly ready while the policymakers and commanders have shown off over Kashmir. The day is over in the Pacific but people living in America from SA are anxious about the NS threat between India and Pakistan over Kashmir (Chatterji, 2002:2102, Mukherjee, 2014:50).

According to Bindra, (2015:57-59) NS tension has increased on account of trio facets such as nuclear weapon development, civic nuclear initiatives, rising extremist groups like al-Qaeda in SA. New Delhi has blamed Islamabad for supporting extremist groups against New Delhi in Kashmir. (Fair, 2004:85). There have been two terrorist attacks in Karachi where dozens of people have died and hundreds of people have become wounded due to the simultaneous attacks by extremist groups (Walsh, 2010). Afterwards, due to the extremist groups' assault in Mumbai, there have been more than 150 dead people, so India has escalated the tension with Pakistan (Biswas, 2018). Therefore, India has sent its aircraft to strike Islamabad's spots for retaliation in response to terrorist attacks at the end of the 2010s till that time both countries have been cautious of airspace violation (Trivedi, 2019:96-97). That has endangered the NS in SA since Pakistan tends to use nukes against India though it has not used for this time.

For instance, the Indian Defence Minister Rajnath Singh has declared, there may be changes in the NFU arrangement against Pakistan that is not a party of this policy in case of Pakistan's usage of nuclear weapons earlier than India. (Pulla, 2019). That clearly emphasizes the ongoing NS issue in SA, owing to the hostile rivalry between these two may result in a nuclear war.

Pakistan has founded the independent Pakistan Nuclear Regulatory Authority (PNRA) to follow the secure nuclear system at the beginning of the 2000s (Salik & Luongo, 2013:15-16). Pakistan at least provides NS in its own territory. However, surprisingly, a decade later *The New York Times* has stated about an attack by the Taliban to Pakistani air force base where Pakistani nuclear arms are estimated to exist. (Walsh, 2012). Unfortunately, this event has indicated that if NS has not been assured the catastrophe possibility increases by the extremist groups.

The Non-Nuclear Weapon States (NNWS), at first producing nuclear staff for energy but later for the atomic bomb, may also be in jeopardy due to the possibilities of illegal selling atomic materials as in NWS. (Kim, 2014:12-16) This issue has been severe in SA since both India and Pakistan are out of the NPT aiming to prevent such kind of illegal activities. Even though it has passed some time, there has been news on this issue blaming Pakistan for helping Iran nuclear capabilities (Sanger, 2004). Thus, initiatives to preclude NS risks suggest endeavours take precautions accordingly. (Herbach, 2014:10).

In the Nuclear Security Summit 2016, the IAEA has conducted various workshops with member states to sustain NS regionally and globally (IAEA, 2017:71-75). Currently, states are aware of the sophisticated technologies since nuclear capabilities and range of missiles have increased from regional to intercontinental.

The modified Convention on the Physical Protection of Nuclear Material (CPPNM) sets up common safety guidelines though, it solely implements supplies in civic utilization and it has neither particular norms nor principles. (Malin & Roth, 2016:10) Reiter (2014:65) states that when countries feel highly endangered about nuclear weapons and are trapped by others, they will probably obtain atomic arsenals

as in the example of prisoners' dilemma. This is directly related to the states' self-defence desire against other states with atomic bomb. This, in our case, India's nuclear weapon acquisition has triggered Pakistan's weapon production.

Due to common interests, two of the largest democracies by collaborating with each other on nuclear issues, America and India, have a common concern for China. On the other side of collaborating partners, Pakistan and China regard the USA and India as threats in SA (Tabassum, 2012:242). That is a typical sample of iterated prisoner's dilemma in realist theory while the states care about their security issue by collaborating. Unfortunately, they disregard the NS threat by increasing their nuclear weapons with the help of another in the region and the world. In SA, nuclear terrorism is in the agenda since 2001 and this may result in three main precautions such as technical measures to preclude atomic disasters, inhibition of illegal attainment and protection measures for not only army but also technical applications and finally hindrance to unacceptable groups in the country and region (Khan & Burke, 2014:84). In other words, the NS problem may endanger the people in the region with terrorist group intervention or nuclear accidents. With illegal nuclear weapon transfer, NS threat may spread across the world as well.

In recent time, after Pulwama Attack (2019), Indian leader Modi accuses Pakistan of assisting terrorist groups in Kashmir and he does not care about Pakistani nuclear threat (Pandya, 2019:66). India has deployed its nuclear submarine after this Pulwama stalemate against Pakistan increasing the nuclear tension in SA (Ullah, 2020). That may imply India is not willing to obey NFU policy against Pakistan and have a potential nuclear strike on Pakistan.

However, Pakistani leader warns Modi if any intervention to Pakistan by India, Pakistan will take revenge (BBC, 2019). Two nuclear rivals' hostility to each other may result in attacking each other even using nuclear arsenals. To be a superpower in SA, India increases its arms capacities purchasing expensive and sophisticated weapons and vehicles like getting dozens of American military helicopters in 2020 (*The Economic Times*, 2020). That leads Pakistan to focus on atomic bombs because the latest military technology or equipment of India brings security threat to Pakistan (Khattak, 2019:22). Consequently, that kind of military

advance of the Indian army or its inventory triggers Pakistan to advance its nuclear power against India thus such competitions increase NS threat in SA. NTS is another factor that maybe either the reason of the NS or the outcome of the NS.

3.2. Non-traditional Security (NTS)

Before explaining the NTS it would be beneficial to mention about traditional security first. Historically, the presence of distinct countries has damaged others' security; thus, all the nations' deeds to secure themselves have led to wars (Buzan, 1983:1). According to Buzan (1983:24), personal security relations with states have two dimensions: First, the minimal state model considers citizens' benefits apart from the limitation on civic management and outer protection; thus, people are in harmony with states. Second, the maximal state model does not care about the harmony between countries and citizens' advantages much; thus, national security turns into a normal and demanded extent. The army is the core threat to traditional security (Buzan, 1983:75). According to Leffer (1990:148), the national security problem stems mainly from foreign menaces. Briefly, classical security bears dangers against countries' unity and governmental dominance with instruments including arms, the army even security-oriented unions and agreements (Attina, 2016).

Even though classically “security” as a term is known as the protection of the governments against foreign assaults, at the present time it is not limited to army and interrelation between governments but it involves the communities, people’s integrities on these issues such as contagious illnesses, ecological corruption, selling or buying illegal narcotics, human kidnapping etc. Hence these civilian matters are classified in NTS (Callabero, Emmers, Emmers, & Acharya, 2006:1).

In other words, NTS means the menace of not belonging to armed forces endangering legislative or communal unity of countries including the wellbeing of their people (Singh & Nunes, 2016:109). Expressly, since NTS includes more than one problem influencing human life in various topics such as poverty, illness, climate, environmental problems etc. NS issues have to be taken into consideration. For instance, after Chernobyl accident, due to the spread of a large number of radioactive materials, territorial pollution has occurred in some parts of Europe.

Hence people in these regions have had some kinds of fatal diseases, while more than a hundred thousand people have lost their lives and hundreds of thousands of people have had to leave their homes. (WHO, 2006:103-106) This case shows the prime outcomes of NS issue even though it has not been a nuclear weapon. Its impact has lasted for years not only for the regional people but also people living in different states including Turkey with the rise of cancer in the Black Sea region.

Nowadays, the concept of security has changed dramatically since it is not a fight on illegal groups but it is also interconnected to the acquiring atomic weapons, growing cities, tremendous change in atmosphere, use of violence, social and economic factors, politics and geographic factors (Ara, 2018). In SA, owing to the nuclear proliferation race between India and Pakistan, the NS tension between these two may result in this NTS issues. Besides, they have been nuclear and regional rivals for a long time by staying out of NPT and Pakistan puts forward its nuclear power as a tool to maintain the balance of power. Thus, nuclear weaponized India and Pakistan need to negotiate and create a resolution for their conflict to provide a healthy and secure life for South Asian people (Khan A., 2020).

In his TEDx speech, Brian Toon (2018), mentions about the dangers of the possible Indian and Pakistani nuclear war that can affect even American continent. According to him in 14 days the smoke would cover the entire earth, then literally he summarizes the nuclear effects in four headings as follow:

- *Shock Waves*, capsizing buildings in the targeted zone.
- *Radiation Poisoning*, dangerous to kill mass of people (more than 20 million people).
- *Building Collapse* eradicating structures where people live.
- *Third-degree burns* even people's clothes turning into ashes in 10 km distance.

Shockingly, this speech demonstrates the severity of nuclear war impacts or weapons that can directly affect the NTS with respect to its impact on climate, food, health and so on. When the first atomic bomb impact is taken into consideration, the blast has killed more than 70,000 humans and later on, a large number of people have

died because of the radiation exposure (*BBC*, 2020). The classical impact of the killing tools in war has changed since 1945 as the effects continue as NTS issues such as diseases poverty, environmental contamination etc. Similarly, even 15000-ton nuclear capacity weapon is enough to kill more than 300 thousand people in Mumbai when it is launched there. Unfortunately, its later impacts such as various types of cancer, and high exposure to radiation will bring about progressive dying of fairly large number of people in the region (McKinzie, Mian, Nayyar, & V., 2013:269-272). Namely, when the launch of the atomic missile by disregarding the NS, it will also lead the mass of loss of lives and properties in the SA while spreading its effects to farther places. If this case happens in SA, too many people may suffer severe diseases or die since almost quarter of the world population lives here.

Nuclear weapons endanger civic people rendering them undefended to assaults since it is impossible to protect themselves versus these weapons (Hakeem, 2014:160). That also damages the earth bringing people poverty and pollution since it is not limited to army losses; NTS issues may last longer than traditional security issues.

States and societies have had a new vision on lately described goals of troops, new missions other than state security. This vision involves kind of tasks such as transnational and civilian, consequently, boosting the interrogation the efficiency of these objectives. (Schnabel & Hristov, 2010:73). Such initiatives prove that states are aware of the current NTS issues being catastrophic regarding the NS. In SA think tanks are quite aware of the case of NTS in the region, they summarize the NTS matters and solution as it is indicated in Table 3 below (Zimmerman, 2016:46).

Table 3 The Non-Traditional Security Agenda

Problem ideas (Frames)	Solutions ideas (Frames)
<p>Redefinition of security to include all problems which threaten state stability regardless of their previous designation as economic, environmental, social or political issues.</p> <p>Acknowledgement of the transboundary nature of NTS problems and the requirement of transboundary solution</p>	<p>Abandonment of ASEAN way</p> <p>Strengthening of regional security architecture</p> <p>Promotion of cooperative and collective understanding of security (increased inter-state cooperation and regionalization)</p>

Source: Zimmerman, 2016:46.

It is out of the question to preclude ecological famine completely; however, the diplomatic ferocity of the states can be manageable (Dixon, & Levy, 1995/96:198), namely; the states' political actions affect the NTS.

Liberal views share similar features with NTS terms such as liberty, justice, selection, individualism and ratification of the elected representatives. However, in realist view, on the other hand, non-governmental factors like ecological decomposition, source shortage and domestic issues have been focused (Mallavarapu, 2008:43-59). In the case of nuclear war in SA, both liberals and realists aware that non-governmental agents directly influence states and people. Thus, the NS threat in the region endangers the rights of livings and environment besides threatening other states in the world because of the mass destruction effects of atomic bomb. The tension in SA, especially between India and Pakistan, terrorism has turned out to be an undeniable matter of NTS menace for universal peace. It exists nearly in every country of SA where extremist groups perform violence, kill significant people and so on. For instance, Islamabad accuses New Delhi backing up the illegal groups such as Tehrik-e- Taliban Pakistan (TTP) against Islamabad. The

worst possibility in the region is the acquirement of atomic bombs by these extremist groups extremely hazardous for universal security. (Azad, 2016:60-62).

New Delhi has banned more than 90 extremist groups including al-Qaeda and Taliban (Roul, 2010:6). There is still the threat of terrorist violence and since India is a NWS, not only India and SA but also the whole globe is at risk.

Along with the globalization, dependency among states has become more complex since any single state's action affects the entire world or proliferation of weapons of mass destruction (WMD) or illegal groups create disequilibrium threatening people's basic rights (Raghavan, 2007:23-25). The money spent for the citizens may be less due to the high military expenses like nuclear arms, as in the sample of at the end of 1990s New Delhi spent \$9.38 billion on the security of the state involving more than 1 million military staff (Stern, 2000:115). Similarly, Islamabad spent \$3,05 billion for the state security involving more than 500 thousand military staff (Ibid). Even in 2019 due to the tensions (Pulwama attack) between India and Pakistan, India's economy¹³ has slowed exponentially and Pakistan has been in enormous debt¹⁴. That may imply spending a large amount of money on nukes inhibits people's welfare as in SA sample. Because these neighbours are in conflict and to deter each other they prioritize their military expenses, especially on nukes.

According to the balance of power, wartime is regarded as crucial phenomena to sustain a balance between states. NTS involves more than a country and its rivals spreading trans-continental and administrative factors along with the global security outcomes (Singh & Nunes, 2016:108-109). This clearly shows the NS issue due to its mass impact is not only related to SA but the whole world as well.

Although the "nuclear winter" term¹⁵ has been on the agenda due to two great NWS Moscow and Washington, recently it has come into question for New Delhi and Islamabad because of their on-going nuclear tensions (Earth Institute , 2020). Indeed

¹³ Indian GDP in 2018-2019 %6,8 but 2019-2020 %5. Nearly % 2 decreased (Business Standard, 2020)

¹⁴ Debt: 2018 -2019 %78,92 Debt: 2019-2020 %86,58 Nearly % 10 increased (O'Neill, 2021).

¹⁵ A year-long planetary solidify brought on by airborne sediment created by atomic bombs

a restrained nuclear war¹⁶ between India and Pakistan would bring about uncommon global nourishment deficiencies and likely starvation enduring more than 10 years (Ibid).

Their on-going hostility to each other especially over Kashmir, Pakistan and India have rendered scientists and researchers quite anxious. Therefore, experts predict that in 2025 with 500 nukes when they have a nuclear clash, almost 130 thousand people would die and the world would go to starvation because of the black carbon scattered out of the nukes (Rutgers University, 2019). Earlier, the University of Reading has found that even in the Cold War era's nuclear trials has affected rainfall drop and radiation ratio with thicker clouds increasing nearly %25 more rain due to past trial explosions by Moscow and Washington. That undesired change has also reached the arctic with radiation. This is alarmingly dangerous since lately NWSs have increased the ir nuclear tests. India and Pakistan also conducted nuke tests in different years (1974-1998). India has tested its long-ranged nuclear capable ballistic missile Agni 5 (5000 to almost 6000 km) for four times in 2012,2013,2015,2018 in Wheeler Island off Odisha coast (*The Economic Times*, 2018). Thanks to that long-range missiles India is happy but that is quite detrimental to environment as aforementioned. India has tested Agni 4 for six times in the 2010s and the last one conducted in 2018 (*The Economic Times*, 2018). Such kind of nuclear tests create tension triggering the opponent Pakistan to conduct nuclear test against India. That shows nuclear arm race but also ecological and mass devastation for people both regionally and globally.

Similarly, Pakistan has conducted several atomic capable missiles such as Ghauri¹⁷ (Hatf 5 between 1200-1400 km range) in 2018 (Panda, 2018). Pakistan has conducted a Ghaznavi missile (nearly 300 km range) trial after the cancellation of J&K private condition by India in 2019 (*NDTV*, 2019). Pakistan has recently tested

¹⁶ Besides the immediate loss of lives and devastation, the scholars assert that firestorms following the bombings would launch some 5 million tons of soot toward the stratosphere. That would cause a decrease of nearly 2 degrees C and four basic yields (maize, wheat, soybeans and rice) would fall more than 10 per cent globally lasting decades.

¹⁷ Rearranged version of *Nodong* belonging to North Korea (Ibid)

Shaheen 3 (2750 km range) nuclear-capable missile reaching the furthest part of India (*DAWN*, 2021).

India and Pakistan have been developing their nuke capacities and creating various types of missiles. Considering these their nuclear arm race with developing missiles endangers the regional and global ecosystem. Tension between these two NWSs may bring about nuclear clash because they chase each other and try to be superior. On account of that hostility and retaliation wish possible nuclear strikes or attacks would give intolerable damage to human beings, plants, animals and briefly to ecosystem both regionally and universally.

This section has mentioned about NS drawing attention to the emergence of it in the world and later on Indian and Pakistani acts triggering the NS tension in the region. The NTS with its destructive outcome regarding nuclear weapons have impact on the NS tension because of its correlation with deterrence theory. Next chapter will focus on Indian and Pakistani nuclear stories and their nuclear race risking the NS in SA.

CHAPTER 4

INDIA AND PAKISTAN AS NUCLEAR POWERS

4.1. India and Pakistan as Nuclear Powers

India's nuclear capability has begun after losing the boundary war with China and China's nuclear test in 1964. Under the leadership of Bhabha (Indian nuclear physicist), India has initiated the acquiring nuclear capability as a security precaution in the area. A decade later being the exclusive state for NPT, India has initiated its first nuclear trial Canada India Reactor Utility Services (CIRUS) (Weiss, 2010:259-262). Even though India states that it needs nuclear capabilities against China, it disregards NS in the region making troublesome for Pakistan, as they have had conflict since their separation.

Pakistani's defeat to India in the 1970s has motivated Pakistan to acquire an atomic bomb as deterrence and equilibrium against India (Salik, 2009:68-69). Literally, this has led nuclear arms to race complementing NS threat between India and Pakistan. Dr Abdul Qadeer Khan, known as the father of atomic bomb in Pakistan is the director of Kahuta Research Laboratories. He has started atomic initiatives when India has had its atomic trials (Shahzad & Gopalakrishnan, 2011). Pakistani has acquired atomic bomb in 1998 with its first nuclear trial. Pakistan has also founded Space and Upper Atmosphere Research Commission (SUPARCO) in 1961 nearly two decades following its independence and in 1998 it has begun to produce its first missiles such as Haft1-2 (Rajain, 2005:295). This is the first step of the NS threat in SA as a retaliation of Indian first atomic trial in 1974.

In India, at the beginning of the 2000s, Bhabha Atomic Research Centre (BARC) separated from the Atomic Energy Regulatory Board (AERB), has been set up on 15 November 1983 to practice regulatory and safety functions for atomic energy in India. In the eye of an anonymous chief servant of the Department of Atomic Energy (DAE), this split has indicated that nuclear warheads for India's armed forces have entered series production (The Nuclear Weapon Archive, 2001). This exclamation shows that the NS threat has been increasing since first nuclear initiatives due to their willingness to have more nuclear weapons. Indian leader Nehru

has already assigned Piara Singh Gill having attended in Manhattan nuclear project, in 1954 on a private mission to make India one of the NWS. Afterwards Gill had become a key figure for a decade in India's atomic arsenal development enterprises (Iqbal, 2016:26). India's desire to be a hegemonic power over Pakistan has led searching a ND power in the area. For global security, nuclear powers act according to some principles. However, India puts itself out of that circle and so does Pakistan. First India has conducted a nuclear test (Smiling Buddha) in Pokhran, Rajasthan in 1974 then Pakistan conducted a nuclear test (Chagai-1) in Chagai, Balochistan in 1998. These steps and attitudes have brought about NS matter in SA. Thanks to the good relation with New Delhi and Washington on non-governmental atomic plants, India has improved its nuclear capacity via civic bodies. Islamabad has also boosted its nuclear capacity claiming to meet energy need in response to India to overcome its weaker troop power (Khan & Burke, 2014:82-83).

New Delhi is in the arms race with Islamabad. Thus as long as New Delhi boosts its arm expenses, Islamabad does the same. Interestingly in 2000s New Delhi has tested short-range nuclear capable missile called Prithi (Gul, 2004:69-70). New Delhi and Islamabad have been on the verge of war due to Kashmir issue in 2000s and Islamabad has tested nuclear capable ballistic missiles called Abdali (Haft 2) and Haft 3 in retaliation for New Delhi's nuclear capable missile tests (Aljazeera, 2003). The worsening situation also has given rise to an arms build-up by both India and Pakistan without considering NS in the region. India has joined the NFU in the early 2000s. (Rajagopalan, 2019). Thus, India focuses on nuclear power as deterrence against Pakistan or China. However, due to the Indian and Pakistani tendency to fight with each other, the deterrence theory has been questioned if it works concerning the Kashmir issue between nuclearized India and Pakistan (Frey, 2006:11-16). This is another way of stating an increase in both Indian and Pakistan nuclear arms against each other raising the NS threat in the region.

Pakistan's atomic trial and atomic weapon capabilities have not been welcomed by India, paving the path for the West recognize the NS jeopardy in SA. (Hilali, 2001:46-48) Islamabad has several sorts of atomic ballistic missiles such as *Hatf-1 (500-kilogram payload with a 100-kilometre range)* and *Hatf-2 (500-kilogram*

payload with a 300-kilometre range) brought from Beijing *M-11 (CSS-7/DF-11)* short-range, single-warhead (*800-kilogram payload*) ballistic missiles to Pakistan, though deemed to be *INorth Korean Nodong-2 Ghauri intermediate-range 1500 kilometre rage*, reaching every significant part of India (Geller, 2003:142). These weapons have been in Pakistan's arms inventory since the 2000s. However, Pakistan has also improved its nuclear potential using sophisticated technologies to create much more influential atomic bombs against India without paying attention to NS in the region. Having a various range of missiles, Pakistan is estimated to have almost 100 warheads at its arsenal in 2009 and it still keeps increasing its nuclear weapons (Norris & Kristensen, 2009:84).

Interestingly, although, the current Indian Defence Minister, Rajnath Singh expresses to obey the NFU, he adds that in the future it may change according to the situation. (Chakraborty, 2019). That recent speech implies India has the potential to use nuclear weapons escalating the tension by threatening NS in SA and it may violate NFU against Pakistan. India and Pakistan also boost war possibility employing nuclear tests against each other (Khan & Sokolski, 2012:358-384). Since their partition, India and Pakistan have been rivals to each other and to be a hegemonic power over each other they have increased their nuclear weapons disregarding NS problem in SA. India endangers NS in SA throughout the history with its policy on nuclear control and peace. As Saksena (2006:210-212) mentions the Comprehensive Nuclear Test Ban Treaty (CTBT)¹⁸ discussions have got worse since the agreement precludes Indian atomic choice about reducing or giving up weapons devoid of ensuring a pledge on known NWS. NS risk has been increasing since Indian foundation because India has desire to be the sole nuclear power in SA against Pakistan. The great rivals, as cited in Cirincione (2011), Washington and Moscow have decreased their atomic weapons almost 75 per cent; however, New Delhi and Islamabad starts the atomic weapon competitions between each other in

¹⁸ The CTBT bans any atomic weapon test blast or any other atomic explosion anyplace within the world. It was signed by 170 states out of 185 in 1996 and has been marked by 185 countries and confirmed by 170. However, the treaty cannot come into force until approved by 44 particular countries, eight of which have however to do so: China, India, Pakistan, North Korea, Israel, Iran, Egypt, and the USA. Also the then US president Trump defended the CTBT in 2018 even if it has not come into force (Kimball D., 2020).

the region (Korb & Rothman, 2012:34). During that time both India and Pakistan have had more than 90 nuclear warheads (Oswald, 2011). New Delhi and Islamabad are deeply suspicious about each other through tactical goals to stand for military creations such as a lot of goals with the inclusion of army bases, nukes and people goals standing for assaults in metropolises (Batcher, 2004:140).

Pakistan, not to fall behind of India on nuclear capabilities, has made great progress in creating nuclear weapons that are more sophisticated. Pakistan has also focused on increasing its nuclear capacity producing more than 10 nuclear warheads annually in 2011 (Kristensen & Norris, 2011:93). Thus, Pakistan has kept improving nuclear capacity including various types of missiles to be launched from the land to sea and air by spacecraft producing approximately more than 20 warheads annually in 2015 (Kristensen & Norris, 2015:61). Though nearly 50 years after the NPT had appeared aiming to stop no further proliferation and facilitating their abolition, the world is still far behind such safety of a denuclearized order. More than 15,000 nuclear warheads are allocated among nine NWS¹⁹ (Thakur, 2014:1103). Undoubtedly, Pakistan regarding India as an NWS threat, has improved its nuclear capacity like India. They both give priority to their own security without contemplating NS problem in SA.

Both India and Pakistan are potential nuclear threats for both SA and the rest of the world since they are decisive to create nuclear weapons and refrain from the treaties on nuclear issues. As in this situation, among NWS India and Pakistan, have been reluctant to sign treaties such as the NPT and the Comprehensive Nuclear Test Ban Treaty (CTBT) claiming to secure their safety (Thakur, 2006:139). As far as concerned, New Delhi has not agreed to sign the CTBT (Ghose, 1997:239). That has led Pakistan to progress its own nuclear weapons against its long-lasting rival India. Not surprisingly the NWS competition endangers NS in the region. Pakistan has received support from China another potential nuclear threat for India. Actually, such grouping and nuclear weapon production increase states' self-confidence and superiority over the others. Pakistan's nuclear weapons increase against India has

¹⁹ Nine NWS states: China, France, India, Israel, North Korea, Pakistan, Russia, the United Kingdom and the United State.

been excluded from the sanctions (Mustafa, 2017:41-42). Such increase in nuclear weapons may also bring about concerns of the know-how dissemination to third parties as non-nuclear states or terrorist groups. Due to their necessity of transferring to use, Pakistan's tactical nuclear weapons for battleground increase NS risk by possible Indian or terrorist attack (Gilani, 2017, *The Economic Times*, 2018). Due to their small size tactical nukes²⁰ (less than 500 km range) are easy to use and do not need complex launchers so extremist groups may steal them (Sokov, 2002). India's and Pakistan's nuclear programs are summarized in the table below.

Table 4 Threats and Opportunities-India and Pakistan

INDIA		PAKISTAN	
External threats from Pakistan and China, Indo-US strategic partnership Reliance on US for Indo-Pak crisis management. Realist aspirations and power projection. Increasing nuclear arsenals and delivery system		External threats from India. Nuclear energy cooperation with China. Reliance on US for Indo-Pak crisis management. Realist aspirations and security maximization. Increasing nuclear arsenals and delivery system	
The State Strategic Outlook			
Moved from threshold nuclear state (pre-1998) to NWS post 1998 Moved from existential deterrence to credible minimum deterrence. Shift from high to low level of strategic ambiguity. Declared nuclear doctrine, NFU policy, massive retaliation		Moved from threshold nuclear state (pre-1998) to NWS post 1998 Moved from existential deterrence to credible minimum deterrence. Maintains strategic ambiguity about nuclear policy. Undeclared nuclear doctrine, No NFU policy, MAD	
The Individual Nuclear Policy and Decision-Making Elite.			
No shift pre- and post- 1998		No shift pre- and post- 1998	
Politico-scientific		Politico-military	

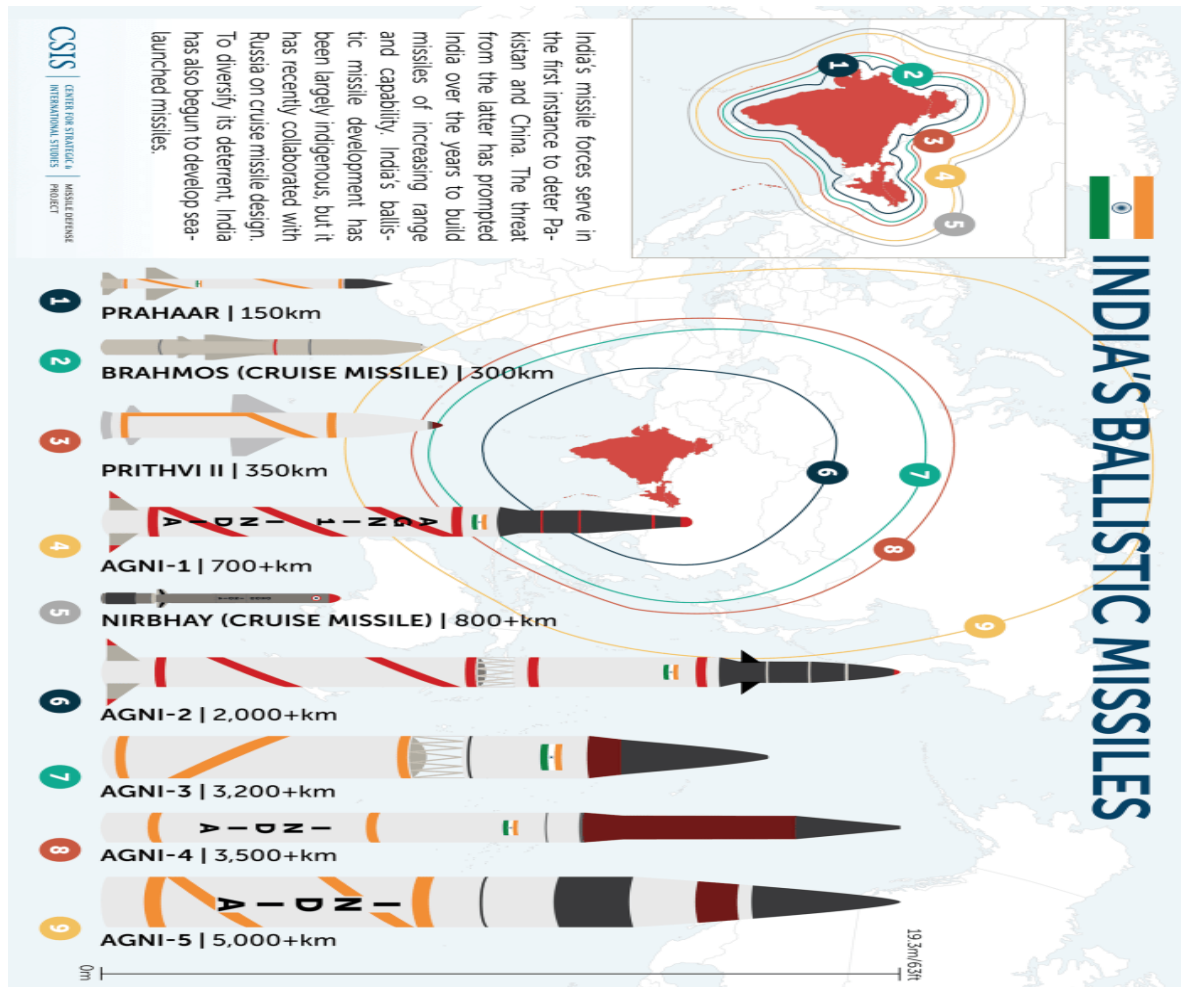
Source: Akhtar, 2016:2.

²⁰ Nuclear weapons

The table 4 indicates both India and Pakistan produce their nuclear weapons according to realist theory; however, Pakistan's nuclear policy is army based though India's policy is science centred.

India has short medium and long-range nuclear capable missiles named in Agra 1-2-3-4 (Sagan, 2009:136) At the end of the 2000s, India has kept producing sophisticated atomic bombs and improving its nuclear capacities. Accordingly, India has made lots of effort in experimentation and development of ballistic-missile defenses (BMD), boosting Pakistan's perception of strategic sensitivity and provoke it to create equivalent aggressive potential (Hagerty, 2020:3). The nuclear arms rivalry between them has increased NS concern in that region. India may have approximately eighty to a hundred nuclear weapons in various kinds with different range capacities in 2010s (Kristensen & Norris, 2012:96-100). India has also increased its nuclear capacity including a nuclear-weaponized submarine and long-range missile (Hans & Norris, 2015:77-79). Currently, India possesses mutual contract with the prominent nuclear dealer states France, Russia, South Korea, UK, US, etc., and meeting with more dealer states on account of nuclear sources and technology (Mohan, 2015:73). As Banerje states, in India, out of nearly "4800 MW, the DAE has in view to add "30,000 MW by 2020 and 60,000 MW by 2032" (Mohan, 2015:74). Expressly, that indicates India has kept increasing its nuclear capabilities against Pakistan consequently increasing the NS risk in the region.

Figure 1 Indian Ballistic Missiles



Source: Missile Defense Project, 2018

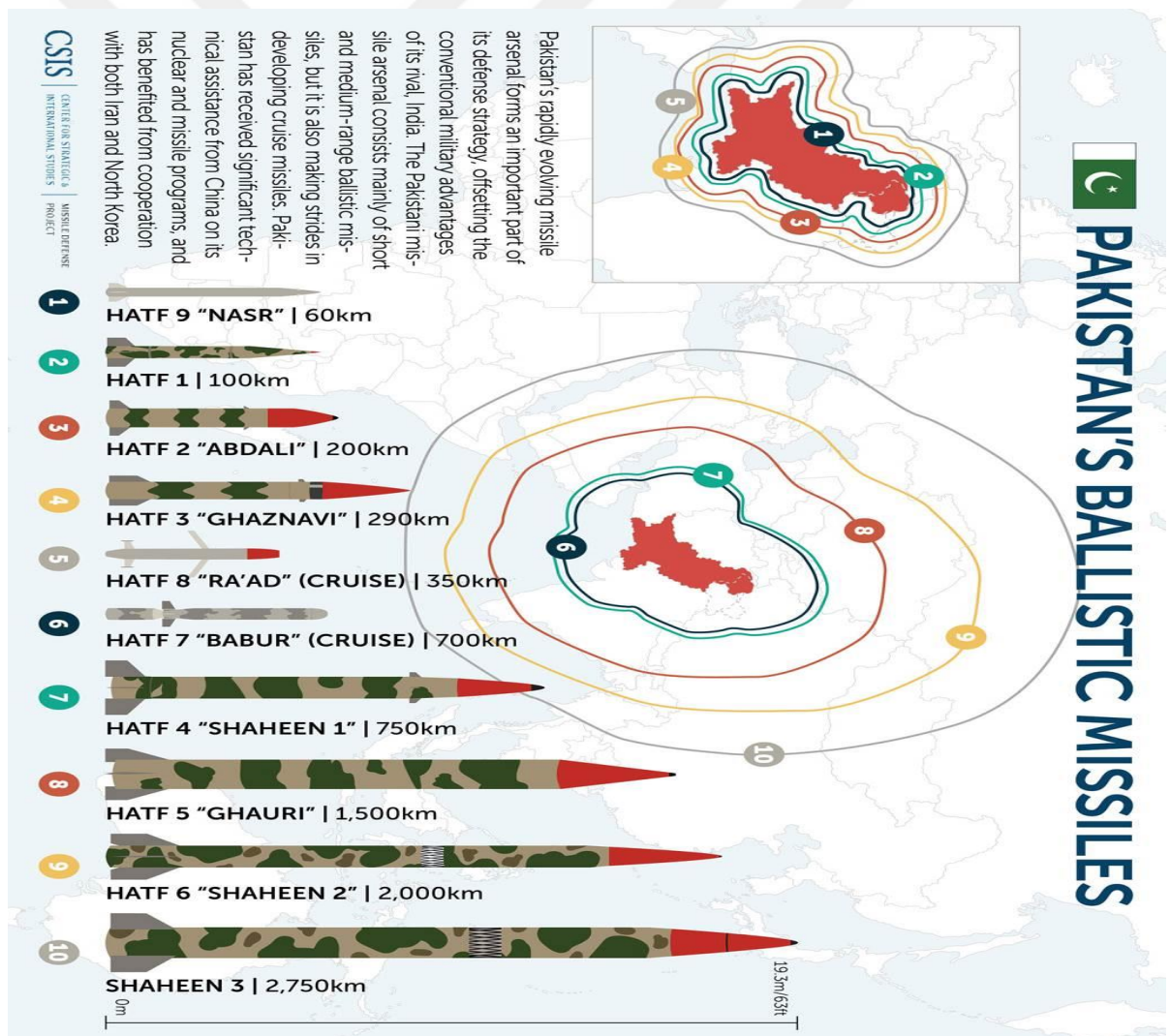
In figure 1 above, almost 10 types of nuclear weapons exist in the Indian arms inventory. Also, there is a threat for both Pakistan and China due to the tactical and long-range nuclear weapons in the figure. Being a party to the Missile Technology Control Regime²¹ (MTCR) in the midst of 2010s, India has always chased Nuclear Suppliers Group (NSG). It has improved “ICBM-AGNI6” till the end of 2010s including more than nine thousand range and its first nuclear policy has been to deter Pakistan. Lately, India has improved its nuclear weapon capacities against China as well. Hence it has enhanced nuclear capacity (land-sea-air) not to

²¹ Agreement signed by seven major states (France, Germany, Italy, the UK, the USA, Canada and Japan) in 1987 to restrain the dangers of expansion of weapons of mass devastation (i.e. atomic, chemical and organic weapons) by controlling the exchanges.

fall behind the NWS in the region (Center For Arms Control And Non-Proliferation, 2019). Always putting nuclear weapons on its agenda India threatens NS in SA with such nuclearization acts triggering Pakistan to create nuclear weapons against India for retaliation.

Figure 2 below indicates Pakistan has tactical nukes and also ballistic nuke having longer range against India. It gradually has increased its nuclear weapons. Moreover, along with the two submarine missiles trials at the end of the 2010s it has had three kinds of nuclear capacities (aerial-waters-ground) (Missile Defense Project, 2018).

Figure 2 Pakistan’s Ballistic Missiles



Source: Missile Defense Project, 2018

Hence, experts assume that with such progress, Pakistan may have more than 150 warheads and probably will be among the first five major nuclear powers nearly less than a decade (Center for Arms Control and Non-Proliferation, 2019). As considering pros and cons, Pakistan has the notion that as long as India possesses atomic weapons, the former will have nuclear arsenals (Barnes, Ogilvie-White, & Alv, 2010). Also, Pakistan refuses agreements like CTBT or NPT to sustain its nuclear weapon development.



Table 5 Indian Nuclear Forces, 2018

Type (US/Indian designation)	Launchers deployed	Year first deployed	Range (km)	Warheads x yield ^b	Number of warhead ^c
Aircraft	48				48
Mirage 2000H	32	1985	1 850	1 x bomb	32
Jaguar IS	16	1981	1 600	1 x bomb	16
Land-based ballistic missiles	60				60
Prithvi-II	24	2003	250	1 x 12 kt	24
Agni-I	20	2007	>700	1 x 10–40 kt	20
Agni-II	8	2011	>2 000	1 x 10–40 kt	8
Agni-III	8	2014	>3 200	1 x 10–40 kt	8
Agni-IV	0	(2018)	>3 500	1 x 10–40 kt	0
Agni-V	0	(2020)	>5 200	1 x 10–40 kt	0
Sea-based ballistic missiles	14				16
Dhanush	2	(2013)	400	1 x 12 kt	4
K-15 (B05) ^f	(12) ^g	(2018)	700	1 x 12 kt	(12)
K-4	(4) ^g	.....	3 500	1 x 10–40 kt	0
Cruise missiles	...	...	...	...	...
Nirbhay ALCM ^h	...	...	(>700)	...	...
Total					130–140

f K-15 submarine-launched ballistic missile (SLBM) as Sagarika name of the missile development project. *g* The K-15 and K-4 use the same 4 launch tubes on the INS Arihant nuclear-powered ballistic missile submarine (SSBN). Each launch tube can hold either 3 K-15s contained in a triple-missile canister or 1 of the larger K-4 SLBMs (once the K-4 becomes operational).

Source: Kile & Kristensen, 2018:268.

Table 5 points out that India has gradually increased its nuke stockpiles in various types. India's nuclear weapons can reach both Pakistan and even China thanks to their long-range capabilities. Against Pakistan's tactical nukes India has also tactical nukes that can be transferred to battlefields. Thus, Pakistani Foreign

Minister Shah Mahmood Qureshi has lately blamed India escalating tensions and threatening security in SA with its ongoing creation of nuclear and conventional weapons to be a hegemonic power over Pakistan. Thus, Pakistan will also follow improving its nuclear arms for retaliation or deterrence (Syed, 2019). The end of dialogues of the nuclear dispute between New Delhi and Islamabad, the lack of attention of continuous building nuclear weapons by these rivals shows a gap in the current NPT policy (Korb & Rothman, 2012:36). Namely, India is a nuclear power with the capacity to ruin not only its rivals but also other continents. Thus, India has tested the Intercontinental Ballistic Missiles (ICBM), the Agni-V five times since 2012 (Gady, 2018). Aforementioned is literally an alarm of NS issue both in SA and in the world as well due to these long-range missiles and their mass destruction capabilities.

Table 6 Pakistan's Nuclear Forces, 2018

Type	Number of Launchers	Year deployed	Range (kilometres)	Warhead x yield (kilotons)	Number of Warheads
Aircraft					
F-16A/B	~24	1998	1,600	1 x bomb	~24
Mirage III/V	~12	1998	2,100	1 x bomb (or Ra-ad)	~12
Subtotal:	~36				~36
Land-based ballistic missiles					
Abdali (Hatf-2)	10	(2015)	200	1 x 5-12 kt	10
Ghaznavi (Hatf-3)	~16	2004	300	1 x 5-12 kt	~16
Shaheen-1(Hatf-4)	~16	2003	750	1 x 5-12 kt	~16
Shaheen-1A (Hatf-4)	-	(2018)	900	1 x 5-12 kt	-
Shaheen-2(Hatf-6)	~12	2014	1,500	1 x 10-40 kt	~12
Shaheen-3 (Hatf-6)	-	(2018)	2,750	1 x 10-40 kt	-
Ghauri (Hatf-5)	~24	2003	1,250	1 x 10-40 kt	~24
NASR (Hatf-9)	~24	(2013)	60-70	1 x 5-12 kt	~244
Ababeel (Hatf-?)	-	-	2,200	MIRV or MRV	-
Subtotal:	~102				~102
Ground and air-launched cruise missiles					
Babur GLCM (Hatf-7)	~12	2014	3505	1 x 5-12 kt	~12
Babur-2/1(B) - GLCM (Hatf-?)	-	-6	700	1 x 5-12 kt	-
Ra'ad ALCM (Hatf-8)	-	(2017)	350	1 x 5-12 kt	-
Ra'ad-2 ALCM (Hatf-?)	-	(2018)	>350	1 x 5-12 kt	-
Subtotal:	~12				~12
Sea-based cruise missiles					
Babur-3 SLCM (Hatf-?)	-	-7	450	1 x 5-12 kt	-
Total					~140-150

Range listed is unrefuelled combat range with drop tanks. - Each NASR launcher has up to four missile tubes. But since NASR is a dual-capable system and the primary mission probably is conventional, this table counts only one warhead per launcher. -The Babur-2/1(B) seems to be an improved version of the original Babur GLCM. It was first tested on 14 December 2016. - The Babur-3 SLCM was first test launched on 9 January 2012 from an underwater platform.

Source: Kristensen, Norris, & Diamond, 2018:349

Table 6 shows Pakistan has created not only many tactical nukes and air-based missiles to use on the battlefield but it has also improved the Babur-3 as a sea-based missile. Also, the table indicates Pakistan gradually has increased the range of its nuclear weapons. Thus that may be an attempt to reach all parts of Indian cities. In figure 3, it is clear that till 1970s Britain reached 500 nuclear warheads but since then it has decreased reaching 200 warheads in 2020s. Till 1990s France had nearly 550 warheads though it has decreased in 300 warheads in 2020s. Since 1965 China has increased its nuclear warheads constantly reaching 300 warheads in 2020s. Israel has also increased its nuclear warheads gradually up to 100 warheads. Since 1990s Pakistan has also boosted its nuclear warheads up to nearly 300 slightly more than India's in 2020s. India has also increased its nuclear warheads dramatically in such a short time comparing with the rest. Briefly, major NWS except China have reduced their nuclear warheads production though India and Pakistan have increased them dramatically in a very short time. That sudden increase due to their hostile manner may bring a catastrophe endangering the NS in SA.

Figure 3 Numbers of Nuclear Warheads

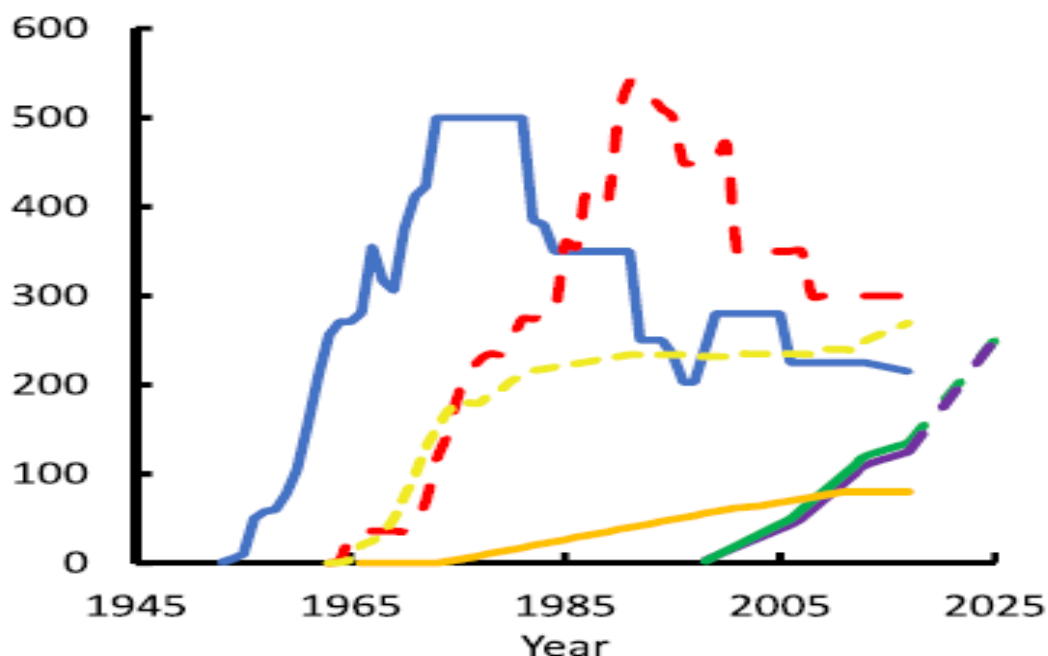


Fig. 2. The number of warheads thought to be in the stockpiles in the sequence of from left to right: 1st line Britain, 2nd line France, 3rd line China, 4th line Israel, 5th line Pakistan, 6th line India.

Source: Toon et al, 2019:1.

Table 7 shows that India and Pakistan have increased their nukes though one of the major NWSs Britain has pledged to reduce its nukes. Also in SIPRI (2020) reports the two major NWSs (USA and Russia) keep not only dismantling old nukes but also decreasing the number of their nuclear weapons.

Table 7 World nuclear forces, January 2020

Country	Deployed warheads*	Other warheads**	Total 2020	Total 2019
USA	1 750	4 050	5 800	6 185
Russia	1 570	4 805	6 375	6 500
UK***	120	95	215	200
France	280	10	290	300
China	..	320	320	290
India	..	150	150	130–140
Pakistan	..	160	160	150–160
Israel	..	90	90	80–90
North Korea	..	(30–40)	(30–40)	(20–30)
Total	3 720	9 680	13 400	13 865

** 'Other warheads' refers to stored or reserve warheads and retired warheads awaiting dismantlement. *** The British Government has stated that the process to reduce the stockpile to 180 warheads is under way.

Source: SIPRI, 2020.

Indian Chief of Defence Staff General Bipin Rawat has stated that India is under threat with full-spectrum by Pakistan and China with both nuclear and conventional weapons (Bureau, 2020). India wants to secure itself in SA so it has been in nuclear modernization process lately for triad nukes. Thus, recently India has been working on nuclear powered ballistic missile submarines, ICBMs, submarine-launched ballistic missiles (SLBMs) and dual-use cruise/ballistic missiles (Moed, 2020). Although India's recent nuclear program has been modified to combat the two-front war against Pakistan and China, Pakistan has been quite anxious due to modern Indian nukes reaching every part of Pakistan (Sultan, 2021). Though India claims nukes are political tools for them, they draw attention to their readiness to use nukes in case of border violation in Kashmir dispute (truce between India Pakistan there), Siachen (a glacier in Himalayas border conflict between India and Pakistan) and international borders (Singh S., 2021:11). This implies that India is ready for possible nuclear war or has a potential to use nukes against the opponents. India has

also a deal with France to build the largest nuclear plant in the world (Agence France-Presse, 2021). Last but not the least, India has discussed in their cabinet lately when to finish an ongoing modern nuclear-capable submarine project (Unnithan, 2021).

Currently, Pakistan has capability to destruct nearly half of India with air based nuclear (2100km range) and land (based 2750km) nuclear missiles. Moreover, in 2025 Pakistan will have had nuclear stockpiles capable of destroying almost all parts of India (Toon et al, 2019:1). Also, Pakistan and India, each will have had approximately 400-500 nuclear stockpiles in 2025. Recently, Pakistan has conducted launch of the "Ghaznavi" missile (the surface-to-surface ballistic missile, 290km range) also Pakistan has also tested its long-range land missile Shaheen-III (surface-to-surface ballistic missile, 2,750 km.) (*The Economic Times*, 2021). That implies Pakistan has been alert in the case of nuclear war between its neighbour India. The then Force Pioneer Director Lieutenant General Khalid Kidwai has stated that with *strategic, operational and tactical, with full range coverage of the large Indian landmass*, Pakistan nukes have the potential to reach almost every part of India (*EurAsian Times Desk*, 2020). Having mostly tactical nukes Pakistan has not been a party to NFU, therefore it is lucky to attack or revenge faster from the opponents, to catch up with an Indian large army and tanks (Ibid).

NS threat has been on the focal point recently and Indian nuke development against Pakistan has also proved that. Pakistan's nuclear program is another parameter creating NS risk in SA since Pakistan regard nukes as the guarantor of their existence against India. Hence, this section points out potential atomic weapons of India and Pakistan and their historical development. Tables and figures provide their nuclear potentials and numbers. NPT has a direct impact on the nuclear proliferation of India and Pakistan. Thus, the next section will focus on the NPT influence on India and Pakistan.

CHAPTER 5

INDIAN AND PAKISTANI APPROACH TO THE NPT

5.1. Non-Proliferation Treaty (NPT)

Before starting on NPT it is essential to know about nuclear proliferation. There are two distinct opinions: Firstly, in the eye of realists, countries get atomic arsenals to secure themselves and secondly idealists observe that countries procure atomic arsenals to secure themselves as the bomb is a necessity (Hymans, 2006:455). Surprisingly India and Pakistan have followed the realist notion by increasing their nuclear weapons since their first trials endangering the NS in SA.

In other words, nuclear proliferation is expansion of atomic arsenals (Munro, 2018). Accordingly, Table 8 shows the historical background of NWSs and that is the beginning of NS issue in the world. Nuclear weapons were made first by America in 1945 and followed by the USSR by 1949. Then Britain created it in 1952. In 1960 France followed Britain and lastly China had its nuclear weapon in 1964. These actors are the pioneers for the creation of the NPT.

Similarly, almost three decades later, India and Pakistan as regional rivals had turned out to be two NWS hostile to each other in SA. Even though India performed its first nuclear test in the mid-1970s, it is different in the table 8 since India created efficient nuclear warhead at the end of 1980s (Gartzke, 2009:154).

The NPT signed by three NWS (US, England, USSR) in 1968. However, it came into force in 1970 (O'Neil, 2007:129).

There are five Global Adherence Plan to make effective NPT:

- Outlawing additional public possession of equipment that can create crops directly applicable in atomic armaments,
- Guarding any atomic components,
- Ending unlawful transports,
- Decreasing the governmental and army money of nuclear weapons,
- Promising to conflict settlement (Perkovich, 2004:22, Ghose, 2009:432-33).

Although these adherence plans above are kind of the NPT goals, these are widened comparing to cold war terms. However, in order to make these lists functional every member and non-member should do their best (Perkovich, op. cit., 2004:22).

Table 4 Nuclear Weapons Proliferation, 1945-Present

Country Date
United States 1945
Soviet Union/Russia 1949
United Kingdom 1952
France 1960
China 1964
Israel 1967 ^a
India 1988 ^b
South Africa 1982-1990 ^c
Pakistan 1990 ^d
Belarus Never ^e
Kazakhstan Never ^f
North Korea Never ^g
Uzbekistan Never ^g

a. According to Cohen (1998, 273-76), Israel began separating plutonium in 1966 and assembled two makeshift nuclear weapons on the eve of the 1967 Arab-Israeli war.

b. According to Perkovich (1999, 293-97), India first readied two dozen nuclear weapons for quick assembly and delivery by aircraft between 1988 and 1990.

c. According to Albright (1994, 43), South Africa constructed its first nuclear device in 1979, but the first deliverable device was not ready until 1982. The 1982 device was deliverable in the sense that it could have been "kicked out of the back of a plane." South Africa began dismantling its nuclear program in 1990.

d. According to Jones and McDonough (1998, 132, n140), Pakistan had enough enriched uranium to produce nuclear weapons in 1987, but it was not until 1990 that it manufactured the components for a nuclear device.

e. The nuclear weapons inherited by Belarus, Ukraine, and Kazakhstan upon the collapse of the Soviet Union in 1991 were generally believed to have been under de facto Russian/CIS control and that in order to acquire the nuclear weapons, the newly independent states would have had to seize them from Russian forces. See, for instance, Miller (1993).

f. See note on Belarus above.

g. North Korea tested its first nuclear device in October 2006. Many experts believe, however, that this test was a failure and evidence of the fact that North Korea still lacks a deliverable nuclear weapon.

h. See note on Belarus above.

Source: Gartzke, 2009:154.

The NPT is not the same for all parties. On the one hand, NNWS pledge for giving up the progress and atomic arms including adoption of the neglected

protection. On the other hand, NWS pledge solely to leave the nuclear weapons they would have in the long run. (Dietrich, 2015:2). Unexpectedly, this treaty has encouraged two rival states to acquire nuclear weapons against each other.

The NPT defenders, Washington, Moscow and London, have failed to stop nuclear proliferation since New Delhi and Islamabad exclude themselves out of the treaty. However, Pakistan accepts to quit nuclear arms only when India does (Vanaik, 1998:1825). This typically proves the beginning of the ongoing NS issue in SA by these two rivals blaming each other to sustain nuclear weaponized status of their own. It has been some exception for Israeli concerning NPT. Thus, India and Pakistan have regarded this attitude as ethnic discrimination (Perkovich, 1993:94). Actually, NPT is originally a regime formed to hold nuclear power in five major NWSs and control the rest or prevent them from creating nukes (Malik, 2019:18-19).

Russia mentions accepting India and Pakistan as an NWS may damage NPT agreements. Due to their conflict, Pakistan threatens India with nuclear weapons and the latter implies to revenge using atomic arms (*The Nation*, 2020). This means these states do not care about the global plan but they care about their own interests by venturing the NS threat in SA.

The Western countries are anxious on nuclear proliferation issue, thus on Non-Proliferation, Arms Control and Disarmament (NACD) they suggest paying attention upon intimidation of proliferation to universal security, a new pledge to diabolic arms (Krause & Latham, 1998:39). The initiatives have begun to prevent nuclear proliferation though; it has made a paradoxical impact on India and Pakistan. Because of this agreement, India and Pakistan have made great progress in having various kinds of atomic bombs threatening NS in SA.

Even though the NPT has a few peace of deals such as: prevention and spread of atomic bombs, nuclear disarmament and collaboration for unwarlike nuclear facilities. Among the states not joining this agreement, Pakistan was imposed penalty more than India and the last one, Israel was supported by the USA explicitly despite its violation of the NPT (Rauf, 2002:5-12).

Due to the antagonism and insecurity among NWS and disillusion among NNWS on continuous nuclear programs of NWS the NPT does not seem to be functional to overcome these problems and sustain reliability. Moscow and Washington ought to start mutual negotiations regarding the NPT and Beijing, Paris, London and the rest triple non-signatory to NPT ought to diminish their atomic arsenals while all the parties should be in agreement on nuclear disarmament (Dhanapala & Duarte, 2015:9-10). Actually that situation has been used as a shield to produce nuclear weapons by both Pakistan and India since they want to be regarded as NWS. However, the more they have increased their nuclear weapons the more they have deepened NS danger in SA and in the world.

Losing its credibility, the NPT is disregarded by many states out of 190 signatory ones, for instance Ankara questions NPT by saying Turkey can also acquire nuclear arsenals by objecting major five (Gilinsky & Sokolski, 2019). This shows the NPT's lack of reliability even for NNWS such as Turkey. Hence, India and Pakistan also criticize the agreement with a similar approach like Turkey that is why they keep increasing their nuclear weapons. For example, New Delhi is on the verge of creating new plants and increasing its atomic capabilities via quick reactors (Sokolski, 2020:264). India has also added its nuclear program water-based atomic missiles to be the hegemonic power both in the region and in the world as well. However, this has increased Pakistan's wish to sustain a nuclear balance between India in the region (Jalil, 2018:34-35).

Along with the disregarded NPT, this clearly demonstrates that China's motivation to increase its nuclear arms has led India to increase its nuclear weapons. Finally, this has led Pakistan to increase its nuclear arms against India and both have increased the NS risk in SA through this cycle. Briefly, India's reaction to NPT has resulted great impact on nuclear proliferation in SA leading to NS problem.

5.2. India with the NPT

Both New Delhi and Islamabad regards the NPT as a biased treaty including five major global actors with a seat in the UN Security Council of Washington, Moscow, London, Paris, Beijing. Thus, they both refrain from this agreement with

the belief that having atomic bombs equals safety and dignity in the global world (Akhtar, 2016:3). Moreover, the NPT has made a negative impact on these two rivals since they have become motivated to produce nuclear weapons against each other blaming the validity of the agreement without thinking NS.

India refuses the NPT for two reasons. First, the regional threats of China and Pakistan, second international one, this agreement works for the benefits of NWS but disregards others (Mahmood, 1995:100). Namely, India has demanded to be regarded as an NWS because it has no intention to give up acquiring nuclear weapons. That has also encouraged Pakistan to acquire nuclear weapons like India concomitantly threatening the NS. Notwithstanding New Delhi keeps atomic test suspensions. Indian policymakers have not been willing to join the CTBT nearly by the end of the 1990s. Furthermore, they have been against the Universal Atomic Test Observing Center in their own territory in order not to stop their nuclear test (Kimball, 2016:3). As in NPT, India's attitude is particularly due to the desire of acquiring nuclear weapons in the region against its neighbours such as Pakistan and China. However, this step has rendered Pakistan acquire nuclear weapons against India creating NS threat not only regionally but also globally.

The NPT is notorious among its NNWS signatories since three non-signatories do not care about the treaty. The policymakers of Pyongyang and Tehran violate the NPT creating nuclear insecurity while going ahead with their own atomic schedule (Cohen & Graham, 2004:42). Among these three, India and Pakistan have sustained their nuclear arms production against each other.

Due to its restrictions to the other parties the NPT excluding five states including the USA, Russia, UK, France and China lack of specific date to stop atomic proliferation and equalities among all the members. Thus, India has not joined the NPT (Behera, 2020:18-19). Thus, these two feel free to go on their nuclear program risking NS. Though New Delhi is regarded as a liable NWS by America, it has kept producing nuclear weapons without limiting itself. (Chacko & Davis, 2018:15). As far as concerned, this may result in vehemence and devastation in the region threatening NS. Due to the NPT's biased manner, it has become an

untrustworthy agreement in the eyes of Pakistan, indirectly leading Pakistan to increase its atomic weapons against India.

The term “power” in IR is usually used to damage. Accordingly, nuclear weapons’ power is fairly greater than classic armies’ power (Waltz, 1967:216-217). Correspondingly, since 2000, India and Pakistan have increased their nuclear capabilities disregarding the NPT increasing NS risk regionally and globally. Briefly New Delhi and Islamabad are unwilling to join in any treaty with their neighbours due to the jeopardy of battle in SA (Abdullah, 2018).

There are two distinct groups about nuclearization. The first one is ND strategists claiming that the aim of nuclear annihilation is either impossible or hazardous. The second one is nuclear abolitionists asserting that the atomic arsenals’ presence is a menace for humans (Harrington, 2016:91). Therefore, the NPT with its major actors aims to prevent malicious events stemming from nuclear weapons or uncontrolled nuclear proliferation by other states. However, it has a dilemma with five major states and their attitude towards NNWS. The NPT accepts five major actors, China, France, Russia, UK and the US as an NWS. India, Pakistan and Israel have nuclear weapons though they are not NWS according to the NPT (Qutab, 2019:2). That shows the inequality of the treaty rendering India, Pakistan and Israel to create nuclear weapons. Thus, India and Pakistan to secure themselves in SA own nuclear weapons as deterrence and they are not members of the NPT.

As Hans Morgenthau (1964:24) mentions nuclear power is more distinct than classic military power. The former is deterrence as psychologic mission, though the latter includes being active in the battle. Thus, when the situation exceeds the psychological phase, it may result in a big catastrophe first for SA then for the entire world.

American policymakers let New Delhi do business with the NWSs; however, they have not allowed Islamabad (Lantis, 2018:414). This is also an interesting point of the NPT created to preclude nuclear proliferation or transfer of nuclear weapon tech to others. Unfortunately, this kind of incentives may bring about a catastrophe in case of atomic arsenals used by India and Pakistan’s retaliation in return vice versa.

The NPT's impact on Pakistan is also a backlash since Pakistan has initiated its nuclear programs in the opposite direction to the NPT. According to Jaishankar (2020:19), there are three crucial global systems in the 21st century: First, management of the universal commons or regions outside the control of any single sovereign state including administration of global waters, environment, polar regions, cyberspace. Second management of economic and trade exchanges between states consisting of multifaceted loan, business, migration, regulations and energy security through global monetary administration. Third, control of peace and security bearing within arms limitation, universal constitutional rules, trust-forming precautions, knowledge shifts, and military bands and clubs.

According to Centre For Advance Defense Studies report, to secure their interests both regionally and globally India²² with Pakistan²³ have involved in illegal nuclear trade with different bodies (Margolin & Bukharin, 2020:4-5). That kind of initiatives by India and Pakistan supports international system in two ways. The first is peace management and military supply while the second is a financial interaction with the others for their interests without considering if it is legal or not. With uncontrolled actions, India and Pakistan keep refusing the NPT endanger the NS in SA.

5.3 Pakistan with the NPT

According to the NPT, countries owning atomic arsenals before the 1960s are regarded as NWS. However, the newcomers are not regarded as NWS. Furthermore, to prevent their nuclear proliferation they are to accept not to get atomic arms. Thus, Pakistan is not in the mood of following these statements, especially due to American aid to India on nuclear arsenals and India's unwillingness to join the NPT. (Khan Z., 2012:3-5). From the beginning of the NPT, the two rival states have refused to join this agreement to benefit from ND against each other. Since Indian Peaceful Nuclear Explosion (PNE) and American aid to India on atomic arsenals,

²² For India suppliers in Japan, China, Germany, South Korea, and the United States in Japan, China, Germany, South Korea, and the United States

²³ For Pakistan, suppliers in Hong Kong- Sunton Tech (HK) Ltd.

Pakistan has changed its disarmament policy from standard to tactical and regional safety of its own (Khan Z., 2012:5). As in realist theory, Pakistan has paid attention to its security to produce nuclear weapons against India's nuclear proliferation. However, this effort has brought about a serious NS risk in SA.

Owing to the universal strategic-geographic force change since the end of the 1960s, NPT has been unsuccessful moreover, the Indian first atomic trial made Pakistan feel insecure. Thus, Pakistan produced its atomic arms against India (Waseem & Tahirkheli, 2019:64-66). That indicates a kind of nuclear weapon race in SA. Due to useless and biased characteristic of NPT (NNWS Israel's nuclearization) and detrimental to get nuclear weapons, Pakistan and India have sustained their nuclear initiatives. Unfortunately, such agents (useless-unfair-detrimental) give harm to the NPT's validity (Wesley, 2005:287-288). Therefore, Pakistan has been on its own path to improve its nuclear weapons since the treaty is not efficient as mentioned above several times. Hence, as rival NWS in the region India and Pakistan have increased NS issue disregarding the NPT. India has rejected Pakistan's suggestions on the Nuclear-Weapon-Free Zones (NWFZ) in SA. Since the NPT is a biased treaty not interfering with India's atomic trial at the end of the 1990s, Islamabad has focused on improving its nuclear weapon as a precaution in the region. (Jaspal, 2018:21). Extraordinarily, the NPT has increased nuclear weapons in the SA region, naturally rising NS risk.

In the article IV of the NPT, there is a gap letting some other countries improve domestic atomic arms and cyber armaments. Article X of the NPT on the other hand, indicates that states may quit the treaty. (Pilat, 2007:475). Due to the former article, India is allowed to improve its own nuclear facilities supported by the US. Because of the latter, North Korea quitted from the NPT at the beginning of 2000s. These two events are hazardous for SA since Indian nuclearization initiatives bring about the rival nuclearized state of Pakistan.

To handle its security, New Delhi has launched various nuclear initiatives such as submarine missile directly affecting the security of Islamabad and Beijing respectively. Thus, as mentioned above, policymakers in Islamabad have avoided the

NPT but tried to improve atomic arms to secure their own state in the region (Ahmad, 2016:6).

Waltz (1979:183-184) asserts that the more nuclear states the securer and the more consistent world. Mearsheimer (2001:359-362) on the other hand asserts, having atomic bombs is not enough to sustain security like classical armies and also it is fairly hazardous to reach security by nuclear weapons. He also adds nuclearization for security has led instability in SA. Due to nuclear weapons and the on-going power superiority race, nuclear war is likely to occur (Krieger & Roth, 2007:370) at any time anywhere in the globe. Two opponents, India and Pakistan, have been in the nuclear superiority race for a long time and they both have refused to join the NPT. While considering Mearsheimer's view, India and Pakistan threaten NS in SA due to their decisive manner of acquiring nuclear weapons. However, Waltz's idea is equal to Indian and Pakistani motivation to produce nuclear weapons. The atomic deal between Washington and New Delhi in the 2000s has changed the "balance of power" so NSG countries get unwilling to cooperate with India. Furthermore, the rejection of Pakistan's demand on nuclear weapons by Washington damages the NPT and this increases the risk of atomic arms competition in SA region (Naseer & Amin, 2015:317-318). To handle this matter, Pakistan turns its way to China not to fall behind India on nuclear weapons and through Chinese assistance on various nuclear arms, Pakistan has improved its atomic weapons (Blank, 2015). Hence, this counter-attack has augmented the NS risk in SA.

The NSG has appeared as an unofficial movement, in which states must have the capability of equipping atomic techs and substances. The NPT is, on the other hand, an official treaty to prevent nuclear non-proliferation. Former (the NSG) demands countries to be the member of the NPT while the latter (the NPT) has standards to prevent atomic weapons. Interestingly, the US supports India, as reiterated several times above, on a nuclear weapon in a tactical manner precluding the latter's global reliabilities (Waseem & Tahirkheli, 2019:64). Since the end of 1990s rising nationalism on spiritual and ethnical dimensions the countries have boosted security issues (Datta, 1998:21). Pakistan, separated from India, has regarded India as a threat since their partitions. That has made Pakistan abstain from

the agreements that preclude it to acquire nuclear weapons ignoring NS in SA. According to proliferation pessimists, the rationale of the non-proliferation is better than ND, because in case of the failure of the latter, there may be a large devastation owing to the atomic war (Carranza, 2006:492). As a non-attendee of the NPT, Pakistan most possibly is in the nuclear war with its forever-rival India due to ongoing NS risk and their hostile manners to each other. Recently, Islamabad has expressed its worries about a fresh start of nuclear test probability by NWSs such as Washington, Moscow, New Delhi and increased nuke usage expectation (Bano, 2020). That shows Pakistan question the validity of the NPT and warns the NPT groups for the possible nuke trials. Pakistani Director-General Arms Control and Disarmament Division of the Foreign Affairs Kamran Akhtar has also shown his discontent about the NPT and slow reduction of nukes saying the NPT has been postponed twice due to Covid 19 these days (Zaafir, 2021).

This part has pointed out the functions and emergence of the NPT and major NWS guiding this agreement. Contrary to the NPT, Indian and Pakistani actions have led NS problem in the region since both refuse to be parties of it. Next section will conclude the thesis.

CONCLUSION

Last of all, the NS threat has been increasing due to the nuclear developments among states either in regional or global terms. In the cases of India and Pakistan, even their nuclear policies and their reactions to the NPT have been surprisingly similar. Under balance of power, Pakistan has kept increasing its nuclear capabilities against India. India, on the other hand, has aimed to be a regional power. Thus, as in realist theory both have aimed to secure themselves against each other. This has led abundance and sophisticated atomic bombs in the region, unfortunately India and Pakistan have had unending conflicts with each other since their separation. These conflicts seem not to end due to their reactive approaches to each other since both of them increase the tension and NS threat as well.

Our first hypothesis was nuclear weapons' NTS influence on raising the NS in SA. This work has revealed that Pakistan and India to deter each other with destructive NTS outcomes have produced nuclear weapon. Thus, the on-going atomic weapon productions directly related with the NTS outcomes that are quite devastating both regionally and globally. Especially weaker Pakistan threatens India with big NTS results to sustain balance of power.

Our second hypothesis was about the dynamic nuclear policies of India and Pakistan would increase their nukes now and tomorrow causing the NS in the region. Our thesis has supported that since both rivals have increased their nuclear weapons and been planning to produce more with more modern and longer-range nuclear capable missiles. Such increases in nuclear weapons bring their usage on the agenda by Indian and Pakistani leaders. Hence, such kind of interdependent nuclear policies between them make the NS threat in SA.

Our last hypothesis was the NPT's existence encourages both Indian and Pakistani nuclear production causing the NS problem in SA today. This work indicated that the NPT had opposite effects since India and Pakistan increased their nuclear arsenals. Regarding the NPT, states have different attitudes according to their

interests. Israel, India and Pakistan have refused to sign the NPT and developed their nukes, North Korea has signed it at first and then left out of the agreement and continued nukes production (Lee & Nacht, 2020:101). That statement also supports our thesis on account of NPT's backlash impacts, especially for India and Pakistan.

Since India and Pakistan asserts the NPT is a biased agreement, they showed their reactions by not being a party of the treaty but creating more nukes.

Although army menaces typically come from countries, they are deliberate actions that are aggressive and direct. Environmental menaces appear to be scattered, complicated, and transnational, not only out of inside but also out of the country related (Dalby, 2009:6-9).

In SA case, NS threats have been increasing for a long time due to the nuclear competitions between India and Pakistan along with the foreign support. Thus, this boosts the NS and NTS threat in the world as well. In another point of view, if nuclear weapons are used, their impacts last for decades as in the Hiroshima and Nagasaki cases or Chernobyl and Fukushima accidents, even though the latter ones are not because of nuclear weapons, their impacts have caused lots of loss and mortal diseases. India and Pakistan being aware of these facts above use balance of power approach against each other. Both threaten each other with nuclear arsenal use, however, India with long-range nuclear capable missiles (land-air-sea based) also have MAD capacity against Pakistan.

The NPT is another agent that has created a paradoxical effect on India and Pakistan. In the Cold War era, the great nuclear powers the US and Soviets have decreased their nuclear weapons. However, India and Pakistan have increased their nuclear weapons in the same era. The NPT aims at reducing nuclear weapons and precluding know-how and the transportation of nuclear weapons. In contrast, India and Pakistan have increased their nuclear capabilities thanks to the block they involve, the first with America the latter with China. That kind of nuclear proliferation has boosted NS risk in SA since the two rivals have had unending conflicts since their separation. Even though nuclear arms have inhibited traditional wars, it has made deterrence brittle and peace unstable. Moreover, the NPT failure

has led to the wish of being a larger atomic power for India and Pakistan in SA (Abbasi, 2018). Recently, the MAD has regained importance with the development of submarine nuclear weapons by India and subsequently Pakistan. Such sorts of nuclear missiles are crucially significant for the MAD retaliation. With these weapons, India and Pakistan endanger the NS in SA in this era.

In SA, there are many works about the territorial conflicts (Kashmir) between India and Pakistan. However, this work drew attention to the NS threat between India and Pakistan. This NS threat is more important than the regional conflicts since they have massive destructive effects. Even nuclear tests create tremendous damages not only to that region but also to the atmosphere. Such kind of trials brings about famine deteriorating the environment and the atmosphere.

As realist pioneers mentioned in chapter two, power necessary for the survival of the states. India and Pakistan have kept on nuclear warhead productions for the same reason. Thus, they keep the NS problem on the agenda. That problem will be on the agenda in the next two decades because of their nuclear superiority ambitions.

India and Pakistan as two nuclear powers should focus on dialogue and remember that they can and should live together in peace. These two should remember that with this escalated tension and endangered NS, they put the rest of the world into risk. Because even nuclear trials have reverse effects on the climate so researchers have found negative impact of the Cold War nuclear tests. For a cleaner and liveable earth, they should give up nuclear trials or more production. Regarding their NPT reactions, even though both have logical reasons not to accept it they should be more active to deter the other major NWS to quit nuclear proliferation or armaments. Finally, the dispute between these two has lasted for many decades. The UN should create an unbiased commission to solve the conflict between India and Pakistan as soon as possible. Thus, the UN will also achieve to deter them using nuclear arms against each other to secure the whole planet.

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