COMPETING NUCLEAR WEAPON DEVELOPMENT IN SOUTH ASIA: INDIA AND PAKISTAN

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Thesis submitted to the Ghazali Shafie Graduate School of Government

Universiti Utara Malaysia

In partial fulfilment of the requirement for the degree of

Master of Science (Strategic Studies)

June 2015

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ACKNOWLEDGMENT

First and foremost praise and gratitude to Allah SWT, the Almighty, for bestowing me with great strength, health, patience and courage in completing this project paper. My sincere gratitude and appreciation for my supervisor Dr. Norafidah Bt. Ismail , the dedicated and aspiring mentor for the guidance and support from the initial to the final level enabled me to develop an understanding of the subject. This work is a result of my personal and longstanding interest in the field of defense and security studies. Therefore, I dedicated this work to my family for your eternal loves.

ABSTRACT

This study is an attempt to explore the main factors that influence competing nuclear weapons development in South Asia. There are only two countries who possessed nuclear weapon in South Asia. Both Pakistan and India's relation in economy are good especially in trade activities. However, the relation is different when it comes to security aspect. Therefore, the purpose of this study is to examine the factors that led them to weaponize their nuclear power in South Asia with particular focus on India and Pakistan with special emphasis on the development of nuclear weapon in both states. Finally, this study will recognize the implications on relationship between India and Pakistan in terms of nuclear weapon development.

ABSTRAK

Kajian ini adalah suatu percubaan untuk meneroka faktor utama yang mempengaruhi persaingan pembangunan senjata nuklear di Asia Selatan. Terdapat hanya dua negara yang memiliki senjata nuklear di Asia Selatan. Kedua-dua negara, Pakistan dan India mempunyai hubungan yang baik dalam bidang ekonomi terutamanya dalam aktiviti perdagangan. Walau bagaimanapun, hubungan antara dua buah negara tersebut berbeza apabila melihat kepada aspek keselamatan. Oleh itu, tujuan kajian ini adalah untuk mengkaji faktor-faktor yang menyebabkan mereka membangunkan senjata nuklear di Asia Selatan. Tumpuan khusus kepada kepada pembangunan senjata nuklear di kedua-dua negera. Akhir sekali, kajian ini akan mengenal pasti implikasi kepada hubungan antara India dan Pakistan dari segi pembangunan senjata nuklear.

TABLE OF CONTENT

LIST OF ABREVIATIONS

EU	: European Union
IAEA	: International Atomic Energy Agency
JPA	: Join Plan Action
NPT	: Nuclear Proliferation Treaty
UK	: United Kingdom
UN	: United Nations
UNGA	: United Nations General Assembly
UNSC	: United Nations Security Council
US	: United States
WMD	: Weapons of Mass Destruction

CHAPTER 1

INTRODUCTION

1.0 Overview

Nuclear technology can be used for many purposes. It is more valuable when used for peaceful purposes rather than destructive ones. The major challenge when using this technology is the higher intention and purpose - whether for peace or destructive scheme. The biggest threat to global peace and security is the spread of nuclear weapons. It is possible to happen because every country has the potential to be invaded and this has become the main reason of security dilemma between countries which led to arms race. The international security environment remained tense during the 40 years of the Cold War under the fear of a possible nuclear war. Nuclear modernization in the region continued with the development of longer-range and more reliable delivery systems. Thus, the adversaries will do the same or build anti-ballistic missile to prevent the strike and protect the country. This is called second strike capabalities when they are able to strike back after offensive attack. They nuclearize their weapons to strike massive impact to the enemy. Nuclearization means weapons are equipped with nuclear energy or giving nuclear capability to weapon delivery systems.

The end of the Cold War reduced the fear of nuclear annihilation because of the collapse of Soviet Union. However, global concerns were revived by the nuclearization in South Asia. India is the first country in South Asia that has nuclear

power. It conducted the first nuclear test in 1974, and mentioned that nuclear was installed for peaceful purposes. However in May 1998 when India conducted its second nuclear tests, Pakistan followed suit to maintain the regional balance of power. It is such a signal to India from Pakistan. A nuclear signaling game can be beneficial to both the sender and receiver of messages. If the signals are properly understood, it can reduce the potential of nuclear conflict instead of the unwelcoming results of military aggression would be. If the signals are misunderstood, it will increase the possibility of nuclear enhancement during a conflict. The signals by these two countries seems to be noticed in the world about the existence of nuclear weapons in South Asia. Both countries will continue to produce fissile material for new weapons and improve their delivery systems. They will proceed with nuclear testing to make a stand to the world about their acquired nuclear weapons capabilities. This will enhance their international standing.

1.2 Background of The Study

Undeclared nuclear states have pursued policies of opacity in which they largely deny the possession of nuclear weapons and refrain from publicly issuing nuclear declarations or threats. The first five states to acquire nuclear weapons which are the United States, Russia, Britain, France and China, have all followed a development path whereby they have openly declared their nuclear status through a variety of mechanisms. In contrast, the second wave of nuclearized states including Israel, India, and Pakistan have followed policies of secrecy regarding their nuclear status. India and Pakistan, despite their 1998 nuclear tests effectively maintain a high level of secrecy regarding the properties of their nuclear weapons, command and control

organization, operational plans, nuclear strategies and general force structures. The result of this secrecy is an ambiguous nuclear status, which ultimately makes it much more difficult for other states to accurately read the capabilities and intentions of their adversaries and increases the possibility of deterrence failure based on miscalculation and misperception.

Since the nuclear development programs are compartmentalized within the government and conducted in secret, there is often little outside feedback and it is difficult to hold program administrators accountable to external policymakers. Furthermore, countries with opaque nuclear arsenals, functioning under a veil of secrecy, inhibit debate within state domestic populations, and in some cases among the leadership. Not only does such secrecy threaten adequate civilian policy evaluation, but it also seriously undermines democratic principles within these states. Stronger states are motivated to prevent the spread of nuclear weapons, or at least to prefer that it remains hidden. Using economic and military inducements, as well as the threat of sanctions, patron states are credited with pressuring their client states into maintaining an ambiguous nuclear posture.

There are often deep divisions between state leaders whether nuclear weapons will effectively provide for state security, given the financial costs and other risks associated with the program. Such decisions to develop nuclear weapon require a consensus, there may be compromises need to reached for the state's nuclear posture to avoid the costs when develop it. Alternatively, for states with centralized decision-making, state that would suffer costs by instituting an open nuclear posture would reject to develop nuclear weapon.

For India, who much stronger than its historic adversary Pakistan, New Delhi was cautious about competing in nuclear terms with a much stronger state, China. At least until it could achieve same recognition in nuclear terms. Additionally, China's tend to assist Pakistan's nuclear and conventional programs was a further incentive to not provoke Islamabad. And Pakistan lagged substantially behind India, giving it few reasons to publicly compete in a race that it was sure to lose. However, Pakistan's action was forced by India deciding to test in 1998, and it quickly followed suit to make Indians believed that Pakistan did not actually have a nuclear weapons capability.

1.3 Statement of The Problem

India and Pakistan nuclear program has been an important issue in contemporary global politics. India and Pakistan has no conflict in other area but they felt insecurity among them because of military strength. Both Pakistan and India's relation in economy are good especially in trade activities. These include trade based on positive lists which is land route restrictions by Pakistan, and multiple non-tariff barriers (NTBs) imposed by India. According to a recent report by the Pakistan Economic Forum (2013), reducing tariff barriers and NTBs could lead to a massive increase in bilateral trade (the potential trade is estimated at US$ 10 billion compared to the current trade volume of around US$ 2.5 billion).

However, a territoral dispute has led both countries to weaponize their nuclear power. Even though both countries did not declare that they weaponized their nuclear power but their previous nuclear tests have shown that they developed the nuclear power as weapons. The program has been identified as a threat to international peace

and security because the International Atomic Energy Agency (IAEA) has been worries that Iran might conduct nuclear weapons development (Kerr, 2012). Thus, the factors which led India and Pakistan to weaponize their nuclear power should be recognized. The development of nuclear weapon in India and Pakistan must be recognized whether nuclear state received any support from other countries or gave support to other countries to develop nuclear weapon. India give priority to their nuclear program rather than their people (Nayyar, n.d.). Implication of their priority will give effect to their relationship especially with Pakistan. Therefore, the purpose of this study is to examine the factors that led them to weaponize their nuclear. A special emphasis on the development of nuclear weapon in both states is also made. Finally, this study will recognize the implication on relationship between India and Pakistan in terms of nuclear weapon development.

1.4 Research Questions

i) What are the rationales that led India to weaponize its nuclear power?

ii) What are the factors that led Pakistan to weaponize its nuclear power?

iii) To what extent, the nuclear weapons of India and Pakistan have been developed?

iv) How do these nuclear weapons affect India and Pakistan relationship?

1.5 Research Objectives

i) To explore the rationales that led India to weaponize nuclear power .

ii) To analyze the factors that led Pakistan to weaponize nuclear power .

iii) To identify the development of nuclear weapons of India and Pakistan.

iv) To explain the way these nuclear weapons affect India and Pakistan relationship.

1.6 Significance of The Study

This research examines the factor that led India and Pakistan to weaponize its nuclear power. This study is important because it can recognize the development of nuclear weapon in India and Pakistan. Thus the circumstance in India and Pakistan can be adopted or prevented if it will led to weaponize nuclear power for peaceful or destructive purpose. Furthermore, the factors from both of the countries will be recognized and readers can evaluate and determine if the nuclear power should be weaponized to protect national security rather than the development of their people. Factors which can be contributed to weaponize their nuclear power will lead to several implication. Besides that, this research examines the implication of nuclear weapon in India and Pakistan relation. Then the study will explain how the factors will affect peace, stability and relationship for both countries. The study focuses on India and Pakistan because both of the countries are in South Asia that have the capability in nuclear weapons. This research therefore attempts to contribute ideas for policy-makers and international community in general, as nuclear phenomenon has emerged and getting widespread support. On the other hand, it is important to develop existing literatures on nuclearization in South Asia and international relations in general.

1.7 Scope of The Study

This study focuses on the factors that led India and Pakistan weaponize their nuclear power. development of nuclear weapon in South Asia with particular in India and Pakistan. Then the research focuses on development of India's nuclear weapon since its first nuclear test at Kohran and also development of Pakistan's nuclear weapon since its first nuclear test. After the factors and development of nuclear weapon in India and Pakistan have been recognized, then this study focuses on the implication of nuclear weapon in India and Pakistan. The time frame of the research is from the first India's nuclear test on 1947 until 1999. It means that the research covers the time frame of 52 years which is also covers the development of Pakistan's nuclear weapon. It also to recognize a pattern of relationship between both countries since the nuclear weapon development.

1.8 Research Methodology

The research methods used in this study is a qualitative study. The reason why the researcher use qualitative method in this study because the qualitative method relate to understanding some aspect of social life. Qualitative method is divided into primary data and secondary data. Primary data is data collected from speech, interview, and statement. Secondary data is data collected from journal, articles and books. This research is based on contextual data which is report and other written data categorized as secondary data. The reports of previous data will identify other studies in this area, and other studies on the same topic in different areas. The author

of the books or journal will be recognized to understand their point of view regarding this topic. The method is called data collection. Then the data will be analyzed with the information in this analysis to evaluate the similarities and differences in this study, and the reason behind them. The method used when analyzing the data is inductive method rather than deductive. Inductive method works from the more general data to the more specific analysis. It begins with discussing the general data which is the case study, then relate it to the suitable theory. Therefore, this study can be concluded regarding the theory matched the data which has been collected and analyzed.

1.9 Theoritical Framework

The theory used to relate this study is realism and constructivism. Realists emphasis on power and self-interest is often their skepticism regarding the relevance of ethical norms to relations among states (Julian,2013). Realism is known for its often combine with rationality. It presents an unsentimental and pessimistic view of international relations as being in a perpetual state of conflict where power, security, and material wealth and capabilities motivate states far more than ideas or values (Buzan,1996). Constructivism derives its name from the fundamental proposition that political actors construct international political relationships out of their own ideas. Relations between certain countries are the way that they are because that is how states and people believe them to be. Ideas matter more than material considerations in the conduct of international relations. In the words of leading

constructivist scholar, Alexander Wendt, anarchy is what states make of it (Wendt, 1999).

Buzan(1996) believes that, although realism is instrumental in revealing the fundamentals of political and international life, the narrowness and primitiveness of the realist paradigm can be overcome. In this study, India and Pakistan was recognized as state are the main actor which is according to realist view. States experience a security dilemma. A security dilemma is a dynamic in which states spiral toward conflict, often unintentionally. Anarchy and uncertainty create the incentive for states to acquire military capabilities and to increase their power. One may do so for purely defensive purposes, but because states cannot know whether another's intentions are defensive or offensive, a state's acquisition of military and other capabilities will elicit concern and reaction in other countries. This dynamic can lead to arms races and to war. This is happened to India and Pakistan and creates instability in South Asia region.

Constructivism can work at two levels (Nugroho, 2008). First is the individual at internal state level. Most constructivism looks at the internal characteristics of individual states and societies to determine their interests and likely behavior. All constructivists agree that state interests are problematic. A state's interests may be derived from some unique set of cultural or other values. At this first level of constructivism, ideas and interests are generated within each state and society (Wendt, 1995).

A second level on which constructivism works is the structural or systemic level. Alexander Wendt(2000) is the leading systemic constructivist thinker. He argues that states are engaged in social relationships which derive meaning independently of the actual material environment. For example, India is involved in very different social relationships with Russia than with Pakistan. These social relationships make Pakistan's nuclear weapons far less worrisome than India's nuclear weapons. Realists would say that the US should react the same way to all of these countries' nuclear weapons due to the uncertain nature of the international system. According to Wendt, whether states are contentious or cooperative depends on the construction of intersubjective meaning and understanding of the international state system and of each other as individual actors. At this level of constructivism, ideas and interests are generated by interaction between states and societies. In this case, relationship and interaction between India and Pakistan.

Another theory can be use in this study but it is not specifically related to this study. Theory such as liberalism and deterrence, related with this topic in general way. Liberalism is a paradigm predicated on the hope that the application of reason and universal ethics to international relations can lead to a more orderly, just, and cooperative world, and that international anarchy and war can be policed by institutional reforms that empower international organizations and laws (Slaughter, 1995). Deterrence theory developed by assuming both a unitary actor (a state) and a rational one (a state, or an individual or small group running a state) making decisions (Morgan, 2012). There was no provision for a collection of states as the decision-maker.

1.10 Chapterization

Chapterization of this study will examine and analyze nuclear weapon competition development in South Asia. To achieve this, the study is organized by chapters. In introduction, it contains a brief introduction, background of the study, statement of problem, objectives, significance of the study, scope of the study, research methodology and theoretical framework. In chapter two is literature review which includes conceptual definition. For chapter three, discussion on factors leading to weaponization of nuclear power in India and Pakistan as well as examining the causes which led both of the countries to weaponize its nuclear power.

Chapter four is on development of nuclear weapon in India and Pakistan. It will discuss the development of nuclear weapon since its existence in both of the countries. Chapter five is implication of nuclear weapon in India and Pakistan. This chapter is divided into parts: implication after 1974 test and implication after 1998 test. The scope of implication is not only in India and Pakistan but the entire world system. Chapter six is the conclusion and will contain concluding remark.

This chapter which is chapter one and begun by recognizing the relation between India and Pakistan. Furthermore India and Pakistan still have a good relation especially in trade even though there are conflict between both the country. This chapter also includes statement of the problem, research question, research objective,significance of study, scope of the study, research methodology, theoretical framework and the last is chapterization that explain chapter by chapter.

CHAPTER 2

2.1 Conceptual Definition

2.1.1 Competition

Competition is usually influence people to have a heightened desire for scarce goods. Competitive behaviours can also manifest in times of fear or threat characterized by lack of control. They pose opportunities for people to exercise competitive instincts. Scarcity of resource is one of the reasons why people compete against each other. When they compete against each other, they aimed to have freedom of choice.

People tend to compete against each other because there is an opportunity to do it. According to Parke, A., Griffiths, M. and Irwing, P. (2004) in article "Personality Traits In Pathological Gambling: Sensation Seeking, Deferment of Gratification And Competitiveness as Risk Factors", some suggests that competitive behaviours surface in consumer contexts because they pose opportunities for people to exercise competitive instincts which most of modern society has diminished.

Scarcity of resource is one of the reasons why people compete against each other. According to Brock and Mazzocco (2004) in article "Responses to Scarcity: A Commodity Theory Perspective on Reactance and Rumination", others portend that the real or implied scarcity of goods influence people to have a heightened desire for scarce goods, and as a result, manifest certain behaviours, like competing, aimed to restore one's freedom of choice. The winner when competing will have freedom of choice. In other words a country will have power when it has enough resources to achieve their desire.

Competitive behaviour will lead to lack of control behaviour. It happens because people tend to win the situation by any means. According to Sneath, Lacey, and Kennett (2009) in article "Coping With A Natural Disaster: Losses, Emotions, And Impulsive And Compulsive Buying", competitive behaviours can also manifest in times of fear or threat characterized by lack of control, which stimulate impulsive actions that serve as coping mechanisms.

According to Hibbard (2010) in article "Competitiveness, gender, and adjustment among adolescents", competitiveness refers to an enjoyment of striving against others, a disposition for superiority, or a way to gain superiority over rivals for limited resources. Leaders in a country must ensure that resources in the country are enough to use for country's development. Limitless desire will make them strive against others countries and rivalry to resources.

People experience heightened emotions when they realize that they are competing. According to Nichols and Flint (2010) in article "Consumer Competitiveness And The Need For Control: A Study Of Internet Auction Bidding", some research finds that auction bidders acknowledge heightened emotions, intense physiological responses and strong motivations to acquire products when they find themselves competing with others. This happened in international system which is arms-race among countries.

Leaders in a country tend to make irrational decisions because of rivalry. According to Malhotra (2010) in article "The Desire To Win: The Effects Of Competitive Arousal On Motivation And Behaviour", demonstrated that as people's adrenaline

surges and competitive arousals increase, their ability to compete while making rational decisions diminishes.

Sometimes people do not realize that resources are limited until it runs out. When a message inform about scarcity, rivalry will occur. According to Aggarwal et al. (2011) in "Scarcity Messages: A Consumer Competition Perspective", showed that when products are advertised with scarcity messages, people's competitive instincts are activated. Both also demonstrated that competitive arousals contribute to people's desires to own scarce goods.

2.1.2 Nuclear Weapon

Nuclear weapon is a nuclear explosive device. Nuclear weapon may be useful to prevent conventional attack as well as nuclear strikes. Nuclear weapons are the most destructive weapons humans have ever invented. A nuclear-weapon system may include specially designed platforms, from which weapons are launched, as well as supportive systems for command, control and other components.

According to United Nation (1991) in Nuclear Weapons: A Comprehensive Study report, nuclear weapon is a nuclear explosive device or warhead. Warheads may be built into various kinds of missiles, gravity bombs, artillery shells and so on. The term nuclear weapon usually denotes both the nuclear warhead and the delivery vehicle that takes the warhead to the target, particularly when this vehicle is a missile. Over the years, both warheads and delivery vehicles have undergone significant processes of development and improvement. A nuclear-weapon system

may include specially designed platforms, from which weapons are launched, as well as supportive systems for command, control and other components.

According to Richard (1997) in article "The Spread of Nuclear Weapon: A Debate", nuclear weapon may be useful to prevent conventional attack as well as nuclear strikes. They may economize on the need to spend on conventional forces. Nations must also possess a large stock of conventional weapons to deter non-nuclear attack because offensive attack may come from any means and not only nuclear.

According to Wilson(2013) in article " The Gordian Knot: Moral Debate and Nuclear Weapons", nuclear weapons are the most destructive weapons humans have ever invented, but that does not necessarily make them the most useful weapons. It is because nuclear weapons bring more destruction rather than benefit to the attackers. However, the destruction of a major city may help to weaken the war-inducing capacity of the opponent.

2.2 Literature Review

2.2. 1 Nuclear Weapon In India

India hinted about their weapon in order to deter enemies. India increased their military expenditure and proceeded with nuclear weapon program to prevent other countries to intervene. India also considered the NPT as a discriminatory treaty against the developing countries. India's nuclear weapon test on 18 May 1974 at Pokhran in the Rajasthan desert which demonstrated its capability for successfully

constructing and detonating a nuclear weapon. However, India claimed that the test was classified as a peaceful nuclear explosive (PNE).

Nuclear weapon development is nuclear energy that has been weaponized to become nuclear weapon. According to David M Horan (1994) in article "Regional Conflict and Nuclear Accord: The Prospect for Normalization of Relations in South Asia", the first India's nuclear weapon test on 18 May 1974 at Pokhran in the Rajasthan desert which demonstrated its capability for successfully constructing and detonating a nuclear weapon. However, India claimed that the test was classified as a peaceful nuclear explosive (PNE). There are many factors which led to the nuclear test.

According to Haider Khan Nizamani (1997) in article "Rewriting Third World Security: A Comparative Study Of Nuclear Discourse In Pakistan And India", before the first nuclear test, India refused to become a party to the Non-Proliferation Treaty (NPT) in 1967. India would have made its support for the treaty if there is a time-bound programme for global disarmament. India also considered the NPT as a discriminatory treaty against the developing countries based on two reasons. First, the NPT institutionalized nuclear apartheid by dividing the world into Nuclear Weapons States (NWS) and Non-Nuclear Weapons States (NNWS). Second, the treaty did not spell out clearly mechanisms for the transfer of nuclear technology for peaceful purposes. The treaty definitely benefits the superpower and not the developing country such as India.

India started to possess nuclear weapon since its security crises with Pakistan. According to Jordan Seng (1999) in article "The Consequences of Nuclear

Proliferation: Lessons from South Asia", India did not fully reveal their nuclear arsenal because it feared the anger of the global non-proliferation regime. However they hinted about their weapon in order to deter enemies. It is to protect the country from being attacked by other countries.

According to Noman Omar Sattar (2000) in article "Pakistan's Nuclear Posture: Deterrence In A Regional Setting", The Pokhran test brought India to the limit of nuclear capability, and helped build its image both at home and abroad. It also bolstered India's technological capability. India had kept its nuclear options open, hinting at a future nuclear capability by rejecting the NPT in 1968. India defended the right to a peaceful nuclear explosion (PNE) which is the term it used for its nuclear test. The period after 1974 saw India as a nuclear power, which coincided with the leading power status earned after the war with Pakistan. The nuclear explosion was meant to show the India's leading role in the region. This period saw India looking at Pakistan's nuclear quest at the same time it shifted international concerns to Pakistan's nuclear development which also allowed India a free hand in pursuing its nuclear agenda. The Indian test led to new concerns about nuclear proliferation, focusing on the supply of nuclear related technology and material.

According to Betts in Michael Ryan Kraig (2001) in article "Nuclear Proliferation in the Developing World: Causes and Consequences", Betts argued that the spread of technology would not lead to many nuclear powers because the true motivation for proliferation was not the inherent value of technological advancement, nor was it due to concerns with international prestige, nor was it due to a vague and unspecified

security dynamic as described under traditional realist theories of international politics. It showed that India refused to become a party of NPT because of this.

Military spending in India hugely contrasted the spending to tackle national poverty. According to Syed Hussain Shaheed Soherwordi (2004) in article "Human Security in South Asian Paradigm", some developing countries worry that human security might be interpreted as providing a new excuse for United Nation (UN) intervention in domestic crises. This worry form a misunderstanding, for it is the present system that it should intervene in, with a handful of the powerful. Every nation in the Security Council would decide where to intervene, how and with soldiers sent to police socio-economics conflicts between ethnic groups. No doubt that India increased their military expenditure and proceeded with nuclear weapon program to prevent other countries to intervene.

2.2.2 Nuclear Weapon In Pakistan

The nuclear test by Pakistan in May 1998 have altered the strategic landscape in Asia. Pakistan might further its territorial intentions by introducing nuclear weapons to the region. Pakistan believed that its nuclear deterrence would keep India from elevating the Kashmir incursions to an all-out military conflict. Pakistan's choice is rational in terms of making its deterrent threat credible.

According to Praveen and Chaudhry (2004) in article "Nuclear Stability in Southern Asia", the nuclear test by India and Pakistan in May 1998 have altered the strategic landscape in Asia. There is urgent need for India, Pakistan and China to stabilize their relationship although the domestic dynamics of these three countries are

different. India is a democracy state; Pakistan is military dictator rule state while China is controlled by the communist.

Pakistan began developing its own nuclear capability as a pre-requisite for an independent nuclear weapons capability. According to Harsh V. Pant (2007) in article "Nuclear Proliferation in South Asia and Middle East: The Centrality of Enduring Rivalries", Pakistan began developing its own civil nuclear capability, one of the turning points being the procurement of a uranium reprocessing facility from France. Pakistan had first nuclear test in 1998 which was in response to the Indian test initiative and the perceived domestic need for Pakistan to make an appropriate response.

According to Markova Michaela (2008) in aritcle "Dangerous Deterrent: Nuclear Weapons Proliferation and Conflict in South Asia", Pakistan might further its territorial intentions by introducing nuclear weapons to the region. Pakistan also acquired certain diplomatic incentives because of the increased international attention to the potential nuclear conflict. Thus, the posession of nuclear weapon by Pakistan created more instability in the region.

According to Ganguly and Kapur (2010) in a book "India, Pakistan, and the Bomb: Debating Nuclear Stability in South Asia", instability was inevitable in the region because Pakistan believed that its nuclear deterrence would keep India from elevating the Kashmir incursions to an all-out military conflict. It is also allowing Pakistan to assume a more aggressive military posture in relation with India.

Pakistan's choice is rational in terms of making its deterrent threat credible. According to USIP (2010) in article "The Quest for Nuclear Disarmament in South Asia: A Reality Check", Pakistan is well-known as the conventionally weaker party than India. Pakistan's nuclear weapons provide the ultimate guarantee to deter Indian aggression even if it is in response to militant provocationPakistan can threaten to use nuclear weapons early on in a crisis, thus raising the costs of any aggressive behaviour by India.

According to Frankel (2011) in a journal "The Breakout of China-India Strategic Rivalry in Asia and The Indian", China's motive in assisting by Pakistan's missile program since 1980s was first and foremost aimed to help Pakistan balance India and create local chaos that would keep India from becoming more than a regional power. However Pakistan's first nuclear test was in 1998 which was long period since the program started.

CHAPTER 3

FACTORS LEADING TO WEAPONIZATION OF NUCLEAR POWER IN INDIA AND PAKISTAN

3.0 Introduction

There are several factors that leading to weaponization of nuclear power in India and Pakistan. Nuclear states are motivated by the threats from neighbouring states to acquire a nuclear capability. The nuclearization of the region has already commenced, with India conducting a nuclear test at Pokhran in 1974 and Pakistan proceeding apace in acquiring a nuclear capability. Regional states seek to bolster deterrence by having a weapons capability, and restraint is based on intentions rather than the inability to respond. This related to realism and constructivism theory. Realism emphasis on power and self-interest is often their skepticism regarding the relevance of ethical norms to relations among states. For constructivism, ideas and interests are generated by interaction between states and societies. In this case, relationship and interaction between India and Pakistan because of factors leading to weaponization of nuclear power in India and Pakistan.

3.1 Regional Security Environment

History showed that threatening regional security environments are an important determinant for the nuclear posture of second generation nuclear states. Second generation nuclear states are motivated by the threats from neighbouring states to acquire a nuclear capability. The use of Pakistan's nuclear weapons was to respond to a massive Indian conventional strike, but others appear to favour nuclear use only

as an in-kind response (Sechser, 2004). Regional security environment also functions as a constraint on nuclear postures under some conditions.

3.2 Deterrence Capability

Regional states generally emphasiz that they has the capability to produce nuclear weapons. Pakistan has strived to rival India in terms of nuclear abilities ever since India tested her first nuclear device in 1974 (Lecamwasam, 2013). By having the ability to produce weapons, this meant that policy changes could be rather quickly effectuated to change from a restrained posture if the circumstances warranted it. Pakistan today has already exceeded Indian nuclear capacity and is even showing signs of substituting England as the fifth greatest nuclear power in the world with more than 100 deployed nuclear weapons, an increase of nearly 40 percent in two years (Williams, 2011).

Indian and Pakistani signals of having acquired a nuclear weapons capability have been even more direct. The nuclearization of the region has already commenced, with India conducting a nuclear test at Pokhran in 1974 and Pakistan proceeding apace in acquiring a nuclear capability (Khan, 2003). Starting with Nehru, Indian Prime Ministers have suggested that India has the capability to make nuclear bombs, while simultaneously discounting that they would choose to do so. As long as the world is constituted as it is, every country will have to devise and use the latest devices for its protection (Pillalamarri, 2015). Prior to the first Chinese nuclear test, Nehru stated that India had the technical abilities to manufacture the atomic bomb. They could do it in three or four years if they diverted sufficient resources in that

direction. India had given the world an assurance that they would never do so. Nehru claimed that India would never use their knowledge of nuclear science for purposes of war (Rajagopalan, 2001). Nehru was actually exaggerating Indian nuclear technology as being more advanced than it actually was.

Rajiv Gandhi in the mid 1980s indicated that if India decided to become a nuclear weapons state, it would take a few weeks or a few months and he also indicated that while India had the ability to make nuclear weapons for almost eleven years, and they had not transformed that capability into weapons (Duarte, 2008).

Pakistani leaders had suggested that Pakistan had the technical ability to produce nuclear explosions or bombs, but did not intend to do so. Second-generation nuclear states preserved the idea that they had the technical ability to produce nuclear weapons. This provided some measure of a deterrence posture by suggesting that a state had a nuclear weapons capability. If a state have a nuclear weapons capability, and as intentions can change quickly, this suggests that it is ready to respond quickly to changing security circumstances. Because of India's conventional military superiority, Pakistan maintains the ability to quickly escalate to the use of nuclear weapons in case of a conventional Indian military attack (Strategic Security Project, 2002). In this way, regional states seek to bolster deterrence by having a weapons capability, and restraint is based on intentions rather than the inability to respond. Pakistan appears to be increasing its fissile production capability and improving its delivery vehicles in order to hedge against possible increases in India's nuclear arsenal (Kerr, 2013).

3.4 Competing in Nuclear Development

On 1990's India lagged behind Chinese nuclear development, while Pakistan was less developed than India (Joshi, 2012). In addition to the balance of relative nuclear power, external states operated as a threat to change a favorable balance of power.

India and Pakistan operated in a regional security environment that was characterized by relative differences in nuclear power between actors. India's nuclear weapons and delivery mechanism program lagged significantly behind China which has more advanced capability. For example, India looked for the majority of its atomic history to stop from specifically recognizing China as the focus of India atomic improvement, despite the way that most states perceived this reality. Both prior and after the 1974 nuclear test, India proclaimed that its nuclear program was for peaceful purposes only. It was only in 1998, after India was close to having long-range missiles and planes to deliver nuclear warheads to most of China, that India justified its test on the threat from China, partly. When India held its first nuclear test in 1974, and Pakistan made decisions to acquire its own capability to build nuclear weapons, it may have seemed a matter of course for elements in the Chinese military, which had a powerful voice in Beijing's nuclear establishment, eventually to decide to lend Pakistan a hand (Kux, 2001).

By the late 1970s, there were rumors of Chinese assistance at Pakistan's nuclear facilities, and by the early 1980s, there were further reports of China testing a nuclear device for Pakistan and that Beijing had provided the blueprints for a nuclear bomb. Chinese government provided the Pakistanis with nuclear weapons

technology, including design information and the assistance may have continued through the mid-1990s, or even later, though much remains assumption (Zhang, 1999). Pakistan recently has shown a willingness to provide China with US-supplied aircraft technology, even when release of such data violates the terms of acceptance (Denney, 1998). The reports of collusion, combined with previous Indian concerns of Chinese assistance to Pakistan during the 1965 and 1971 wars, were threatening to India. If India had adopted a more open nuclear stance and quickened the development of its nuclear capability, it risked prompting China to increase its support of Pakistan as a way to balance Indian strength in South Asia. Thus the conduct of external states influenced the regional balance of power calculations in South Asia.

3.5 Second Defence Strategy

Nuclear states have placed a primacy on the conventional military balance in the region. The priority of devoting sufficient resources for conventional capabilities has further served to reduce incentives to adopt an open nuclear posture. This dynamic has operated in different ways. Second defence strategy means use nuclear weapon as their defence after conventional army. Sometime conventional army cannot defence their country in effective way. Thus, nuclear weapon as second defence strategy as a back up plan for the country. The first way is leaders seeking to fund a nuclear program without diverting resources for conventional weapons or domestic economic programs. Pakistan was trying to compete with India. Whatever India has done, every new weapon India has develop, Pakistan follow suit. But this arms-race has cost Pakistan far more than India, because Pakistan has a much smaller economy

and fewer scientific and technical resources. Unfortunately, Pakistan has paid to stay in the arms-race by accumulating a big foreign debt, almost 90% of its GDP, by concentrating a quarter of its annual government spending on the military, and by neglecting the needs of the people for education, health, housing and jobs (Nayyar, n.d.).

All of the states in this study placed a primacy on being able to respond conventionally to threats within their security environment. However, the source of this constraint has differed among the states. Pakistan constructed a nuclear force as quickly as possible, although Islamabad's concern was its conventional weakness with India. To this end, Pakistan also sought external assistance to speed up its program. Pakistan has emphasized nuclear weapons development in the last fifteen years to compensate for its conventional-force disparity with India (Clary, 2013). At the same time however, the Pakistani military clearly had a preference for maintaining sufficient forces to deal with the conventional threat from India. This happened because Pakistan could not give up its conventional force in replace of a nuclear capability. In the same time, Pakistan began to expand its nuclear arsenal in an effort to prevent India from retaliating with conventional forces (Tellis, 2015).

It would not have the flexibility to respond to an incursion without massive retaliation if Pakistan only focus on nuclear force. Furthermore, if Pakistan just relied on a nuclear capability, India would quickly have a secure second-strike capability. This meant that Pakistan's nuclear capability would quickly be countered. A raft of military equipment from U.S. was given to Pakistan to help secure its nuclear material, its warheads, and the laboratories that were at the site of the worst

known case of nuclear proliferation in the atomic age (Sanger& Broad, 2007). And with the U.S. as a significant supplier of conventional forces, this also meant that Pakistan was not ready to rely on nuclear deterrence to solve its security problems.

India was the most reluctant to overly spend on a nuclear capability. India has preferred not to enter into a costly arms-race, or to invest large sums of money in defense expenditures. India could deal with the short-term Pakistani threat. India has sought to minimize the propensity for costly and dangerous regional arms-race with Pakistan and China that could prove counterproductive.

CHAPTER 4

DEVELOPMENT OF NUCLEAR WEAPON IN INDIA AND PAKISTAN

4.0 Introduction

Even though many politicians opposed nuclear weapons because of economic and moral reasons, but there are some differences between Prime Ministers as to the value of conducting further nuclear test and claimed it was peaceful nuclear tests. Furthermore, the increased economic aid by foreign powers served as an additional source of leverage on the nuclear program. Realism view of international relations as being in a perpetual state of conflict where power, security, and material wealth and capabilities motivate states far more than ideas or values. Besides that, constructivism ideas and interests are generated by interaction between states and societies. Thus the development of nuclear weapon in India and Pakistan relate to the theory. This chapter will explain the development of nuclear weapon in both countries.

4.1 Development of Nuclear Weapon In India

4.1.1 The Leader of India And Nuclear Weapon Development

India's nuclear program was started in the pre-independence era by a small group of influential scientists. Homi Bhabha is one of the scientists who understand the importance of nuclear energy and persuaded political leaders to invest resources in the nuclear sector (BARC, 2015). After the independence in August 1947, Prime Minister Jawaharlal Nehru launched an ambitious nuclear program meant to boost

the country's prestige and self-reliance in energy (Weinstein, 2011). The primary focus of the program was the production of inexpensive electricity and to reduce the cost on energy. However, the decision to develop the complete nuclear fuel cycle also gave India the technical capability to pursue nuclear weapons (Perkovich, 1999).

In 1948, the internal debate over whether India should develop a nuclear explosive device continued. The scientific establishment wanted to prove that it was technically capable of detonating a nuclear device within Parliament pointed to security developments in China and elsewhere as a requirement for a nuclear deterrent (Kerttunen, 2009). Besides that, many politicians opposed nuclear weapons because of economic and moral reasons. They also argued that nuclear weapons would not make India more secure. The solution to nuclear proliferation was comprehensive global nuclear disarmament. A consensus emerged on both sides that India should not sign the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) when it was opened for signature in 1968 unless the nuclear weapon states agreed to a clear plan for nuclear disarmament (Frey, 2006).

In the late 1960s, nuclear scientists in India continued to develop the technical capacity for a nuclear explosion, even though the political decision had not yet been made to carry out the test. Although opponent to the idea of nuclear weapons, Prime Minister Lal Bahadur Shastri authorized theoretical work on the Subterranean Nuclear Explosion for Peaceful Purposes (SNEPP) project in November 1964 (Perkovich, 1999).

Prime Minister Indira Gandhi of the Congress Party was the first Indian leader to approve the testing of a nuclear explosive device. India first tested a nuclear explosive device in May 1974 and significantly characterized as a peaceful nuclear explosion, at the Pokhran site in the Rajasthan Desert (Arm Control Association, 2014). Before the nuclear test which was called the "smiling Buddha" test, Indian Prime Ministers had explicitly vowed that India would not acquire nuclear weapons (Atomarchieve, 2014). However, New Delhi had reserved the option to conduct peaceful nuclear explosions (PNEs) even as U.S. and other states were concerned about proliferation which claimed that there was no difference between testing for weapons purposes and peaceful experimentation. The evidence suggests that India's decision to test was largely in response to Chinese nuclear developments, where China had gone nuclear with its public tests in 1964 and continued to advance its weapons program (Ganguly, 2001). India tested as soon as it had the technological capability to do so. For these reasons, India's initial decision to test in 1974 posed less of a puzzle than its subsequent ambiguous posture. However India's characterization of the 1974 test is interesting from a deterrence perspective because other countries did not expect India could develop a nuclear weapon. After the 1974 nuclear test, Indian leaders reverted back to an ambiguous posture that did not include further peaceful nuclear explosions or declaring itself a nuclear weapons state. India did not follow the 1974 test with subsequent tests, nor did it immediately weaponize the device design that it had tested (Abraham, 2009). This stance primarily consisted of Indian leaders denying that India possessed nuclear weapons and claiming that the nuclear program was for peaceful purposes only.

The test was a break from India's stance before which is the extent that India demonstrated that it had the capability to conduct a nuclear explosion. At the same time, by publicly characterizing the event as a peaceful nuclear explosion, India's nuclear policy remained consistent with its previous longstanding position that explicitly denied that India would produce nuclear weapons (Richelson, 2006). India's nuclear policy also changed in two subtle but important ways before the test. First, Indian Prime Ministers began to acknowledge that the no-weapons policy was subject to review. Second, a couple of years before the test, Indian leaders began to justify the scientific utility for peaceful nuclear explosions (Richelson, 2006).

The following traces India's struggle to consolidate the state while developing a nuclear capability, with several turning points in its history, following the 1974 tests, the consideration of testing from 1980-1984, 1995 and again in 1996 (Burns, 1998).

According to Subrahmanyam (2000), when Indira Gandhi returned to power in 1980, she sought to further advance the Indian nuclear weapons progress that she had begun during her first period in office. She authorized programs to fund research and development on five different nuclear missile delivery options and pursued an Indian lease of a Soviet nuclear submarine which is hidden from public. On the other side, she maintained the ambiguous nuclear stance in which she neither denied Indian nuclear development, but did not suggest that India was weaponizing its capability either. She issued a number of public statements indicating that while India's nuclear program was for peaceful purposes, if tests were necessary to further these scientific applications, India would do so (Saran, 2013). India had to stay out of the non-proliferation treaty (NPT) in order to maintain its nuclear option.

India also retained the right to conduct further tests, even it did not do so. While Indian leaders also did not give up the option of further testing, there were some differences between Prime Ministers as to the value of conducting further peaceful nuclear tests. For example, a few years after the test, India's new Prime Minister Morarji Desai signaled that the government did not believe in nuclear weapons and further doubted the necessity of conducting peaceful nuclear explosions (Lorber, n.d.). But, Indira Gandhi returned to power in 1980 and she did not rule out the possibility of further tests (Subrahmanyam, 2000).

Behind the scenes, Gandhi seriously considered conducting more nuclear tests and in February 1981 she went so far as having the two testing shafts to be cleared and then instructed the bomb team to have the devices ready (Hansen& Graham, 2009). It appears as if she was keeping the option open to test at least through 1982, when again there were reports of activity in the Pokhran Desert that suggested test preparations. In May of 1982, the U.S. Embassy in India cabled back an Indian news article reporting on increased activity at the test site. However, in order to squash these reports in public, Gandhi again publicly declared to the press later in the month that India would not test (Chakma, 2004).

India had little reason to speed up its continued nuclear development. Non-proliferation efforts kept the program from public eye and increased Indian efforts to indigenously produce the necessary components for a nuclear weapons capability. (Bhadra, 2011).

Gandhi considered testing in the early 1980s, addressing economic weakness was a higher priority and the Indian government took care not to provoke the renewed patronage of the United States (Atomarchieve, 2014). The following Prime Ministers largely followed this pattern and Indian leaders would not seriously consider testing again until 1995 (Abraham, 2009).

India's overall strategy was relatively conservative as related to Pakistani nuclear development. India's nuclear policy reflected a desire in New Delhi to not worsen regional tensions, which would require increased national spending on both conventional and nuclear systems. The final culmination of decades of research and investment in a nuclear program finally came to fruition in 1998 when India tested a series of nuclear explosions and declared itself a nuclear weapons state (Lecamwasam, 2013).

On May 11, 1998 and again on May 13th, India conducted a series of nuclear tests at the Pokhran site. In all, the Indian government reported five tests (Arm Control Association, 2014). One of the tests was possibly of a thermonuclear device. Shortly after the tests on May 11th, Vajpayee unambiguously declared India a nuclear weapons state(Abraham, 2009). While signaling a shift in Indian nuclear posture after four decades, immediately after the tests, Vajpayee also sought to re-engage the international community, in particular the United States, and minimize the external ramifications of the tests. To this end, after the May 13th tests, Vajpayee cancelled further planned tests in the series and indicated that while India would not sign the CTBT, it would place a voluntary moratorium on any further testing (Abraham, 2009). India became a NWS (Nuclear Weapons State) most reluctantly in May 1998

despite her demonstration of nuclear weapons capability 24 years earlier in May 1974 (Kamath, 2014).

Acording to Army Technolgy (2015), in 1999, India tested its Agni-II missile with a range of 2500 km. This was India's first nuclear capable missile that could reach much of China's southern, western, and central areas. This was an enormous advancement as India's previous Agni-I was ranged at 700-800 km. Still, it wasn't until the development of the Agni-III with a range of 3500 km that India could reach Beijing or Shanghai, some of the furthest high value targets.

4.1.2 The Involvement of Foreign Powers

United States

According to Bhadra (2011), the increased economic aid by the U.S. and several other Western countries served as an additional source of leverage on the Indian program. These incentives also served, in conjunction with the threat of sanctions, to help keep Indian nuclear ambitious ambiguous later in the early 1980s when Gandhi considered testing again.

The changes in nuclear posture occurred after India was able to establish a closer relationship to the United States. It combined with economic growth and generally benign security environment during the 1990s, creating the permissive conditions for India to test its nuclear capabilities that had been in development for decades (Gupta, 2005).

The challenges of nation building have made Indian leaders vulnerable to the economic, material and technological advancements. Non-proliferation constraints imposed by the United States have led to an opaque nuclear posture for most of India's nuclear development. A state that is facing these kinds of domestic and international challenges can ill-afford to be denied technology, development aid and loans, or face economic sanctions for openly defying U.S. non-proliferation efforts (Burns, 1998). These lessons were learned by India after the 1974 tests and have played an important in Indian decision-making calculation (Abraham, 2009).

Not only has India sought to avoid the negative ramifications of economic and technological denial, India has attempted, with varying degrees of intensity and success, to engage the United States enough to garner trade and advanced technology benefits (Praveen & Chaudhry, 2004). Even during the Cold War and since the early 1980s, India has identified the United States as its preferred source of high technology and trade, with efforts to gain access to these resources has led to mutual exchange in which India has maintained a restrained nuclear posture in return for some cooperation in these areas with the United States (Richelson, 2006).

Domestic demands on the economy associate with a very large population with basic services to provide, India could not afford costly confrontations or provoking an arms-race with its neighbours Pakistan and China. Indian economic and scientific struggle from 1974 through the mid-1990s, combined with external constraints in the form of U.S. non-proliferation pressures, suggest important reasons for Indian restraint that has prevented it from overtly demonstrating its nuclear capabilities and intentions through 1998 (Soherwordi, 2004). Indian Prime Minister Desai

acknowledged a few years later, 1974 nuclear test caused severe difficulties for India in maintaining its nuclear research and development program (Lecamwasam, 2013).

Relationship between United States and India after Indian nuclear test in 1974 were characterized by an increase in U.S. international efforts to stall horizontal proliferation, and direct pressure on India in the form of already existing nuclear cooperation, promises of technology exchange, and the threat of economic repercussions (Kraig, 2001). The 1974 Indian nuclear test prompted the United States to more concerns about nuclear proliferation.

The U.S. wanted to hold India to its 1974 posture that the test was for peaceful purposes only, and to further minimize the scope, pace, and military dimensions of India's nuclear explosive program (Kraig, 2001). Prior to the 1974 Peaceful Nuclear Explosion(PNE), the U.S. had provided fuel for India's Tarapur reactor, and continued to do so afterwards, with the understanding that India would refrain from further explosions (Burns, 1998).

While the United States did not have extensive nuclear cooperation with India prior to and after the 1974 nuclear test, Washington did seek to leverage existing contacts to convince the Indians to forego further testing and to not produce nuclear weapons (Bhadra, 2011).

After the 1974 Indian test and the subsequent passage of the 1978 Nuclear Non-proliferation Act (NNPA), U.S. law now required that all of India's facilities be subject to full-scope safeguards or the U.S. could not cooperate in the nuclear area. This new obligation put the existing Tarapur agreement under scrutiny because it did

only provide for safeguards on the Tarapur facility (Lecamwasam, 2013). India's stance toward the non-proliferation regime agreements remained consistent after its 1974 nuclear test. In particular, India rejected the NPT and later the CTBT as discriminatory because they entrenched existing nuclear weapons states (Kraig, 2001). Nonetheless, India was still affected by the institutions and agreements among nuclear suppliers and the 1974 test triggered a backlash among some Western states (Soherwordi, 2004). This slowed down and damaged the Indian nuclear energy and weapons program. Therefore the primary affect the international non-proliferation regime had on India's nuclear policy was material to enrich the uranium.

During the 1980s and 1990s, India's Prime Ministers began liberalizing the Indian economy. This led the Indians to seek increased economic and technical cooperation with the United States. This strategy had a two-fold effect on Indian nuclear policy (Weiss, 2007). On one hand, increased cooperation with the United States was an important factor in maintaining nuclear ambiguity as Indian leaders did not want to jeopardize increasing access to markets and technology by triggering U.S. mandatory non-proliferation sanctions by testing. At the same time, India's economic growth, combined with better relations with the U.S., put the Indians in a better position to withstand the sanctions resulting from a test (Weiss, 2007).

Canada, who was a major supplier of nuclear materials and technology for India's civilian nuclear program, withdrew cooperation after the 1974 test, creating additional pressure on the nuclear establishment to indigenously produce its own nuclear components and materials for the weapons program (Clarke, Fruhling &O'Neil, 2011). Canada had the strongest reaction to India's 1974 nuclear test.

Canadian officials were particularly dismayed by the test because Canada had provided India with a substantial amount of nuclear assistance, and the explosive device likely had incorporated plutonium from the Canada supplied CIRUS reactor (Clarke, Fruhling &O'Neil, 2011) As a result of the test, Canada suspended all nuclear cooperation and assistance and reviewed all other forms of economic aid, except food and agricultural assistance (NTI, 2015). The Canadian response almost immediately affected India's nuclear energy program, as for example, India had uncompleted construction on a Canadian supplied reactor.

China

India assume at least a minimum nuclear deterrence capability against China as important for its long-term security. It is a factor driving the Indian develop nuclear weapons program. At the same time, Indian nuclear weapons development has persistently lagged behind China's much more advanced weapons and sophisticated delivery systems (Joshi, 2012). India signaled that it had the capability of constructing nuclear explosive devices in 1974, but it wasn't until 1996 that it made arrangements to purchase the Sukhoi-30 aircraft from Russia, which are capable of carrying nuclear bombs to high value targets in China (Kux, 2001).

India has lacked the necessary sophisticated delivery systems to strike targets in China until the late 1990s (Joshi, 2012). This meant that India was not even in the realm of being able to establish credible nuclear deterrence with China before it tested in 1998. Because of the requirements for an advanced nuclear program, India had little incentive to continue testing for purposes of addressing its security

problems with China. India had already proven its explosive capability, so further testing would have added little until India was closer to having delivery mechanisms (Duarte, 2008). India could have tested a nuclear device earlier to signal its continued advancement, but without a delivery system this seems like nothing to establish deterrence with China. Without a clear benefit to continue testing, India's security problems with Pakistan and its efforts to increase its economic base clearly outweighed any consideration related to China, specifically leading up to nuclear explosion test (Zhang, 1999).

After the 1974 nuclear test, India maintained a consistent position of rejecting international and regional non-proliferation agreements and proposals that did not restrict China's nuclear weapons capabilities (Joshi, 2012). This meant that India continued to stay outside of the obligations of the international non-proliferation regime. Rather, by avoiding nuclear safeguards and treaty commitments, India preserved its nuclear option that would enable it to develop weapons in the future to address its long-term security concerns in relation with China.

Soviet Union

There were some media reports during the 1980s that the Soviets had violated its international obligations by supplying heavy water to India, which was used in part in a reactor that was a source of plutonium for weapons (Wisconsin Project, 1995). Buying the heavy water openly from legitimate sellers would have obliged India to put its reactors under inspection. India denies it ever imported heavy water clandestinely, despite overwhelming documentary evidence of the sales.

The day after the first tests at Pokhran, Russia started voicing opposition to the idea of implementing sanctions. Moreover, the Indian tests did not hinder the cooperation between Russia and India regarding conventional weapons and in fact, following the tests, Russia sought a closer relationship with India in which they have begun exploring joint military and technical cooperation and development (Wisconsin Project, 1995).

4.2 Development Of Nuclear Weapon In Pakistan

4.2.1 Reaction of Pakistan

Pakistan repeatedly denied that it was developing a nuclear weapons capability, but it became increasingly clear that Islamabad had undertaken a secret program. Pakistani nuclear weapons effort relied on a massive smuggling program, which began with the secret acquisitions of key technology. The government of Pakistan has provided little information on its nuclear program, closely guarding it as a vital state secret (Koch & Topping, 1997).

Pakistan faced severe financial constraints in developing a nuclear weapons capability, complete with reliable delivery systems that could provide credible deterrence. So, in 1972, and a couple of months after Pakistan decided to develop a weapons option, Bhutto suggested the idea of a nuclear-free zone in South Asia but India rejected these overtures (Michaela, 2008). Muhammad Zia ul-Haq came to power in 1977 through a military coup and inherited both Pakistan's nuclear posture from his predecessor and the U.S. imposed sanctions (Hevesi, 1988). In 1974,

Pakistan again proposed a nuclear-free zone in South Asia, and as usual India has rejected the proposal, arguing that China should be included (Kapur, 2010).

According to Bhardwaj (2013), AQ Khan had written to the Pakistani Prime Minister Zulfikar Ali Bhutto in July 1974 offering to build a nuclear bomb for Pakistan. The timing of the letter had been perfect, for only two months ago India had exploded a nuclear bomb of its own. Pakistan had been trying to develop its own nuclear bomb since 1958, but had consistently failed because of the lack of money and the technical on how to make the bomb. From the mid-1970s, Pakistan sought to acquire enrichment and reprocessing plants from other states. From this, the Kahuta enrichment plant was built using technology, equipment, and materials obtained secretly from a number of European countries, with the plans stolen by the infamous A.Q. Khan, working in the Netherlands (Langewiesche, 2005). The Pakistan Atomic Energy Commission (PAEC) was still many years away from developing a bomb. So the letter from this unknown mining engineer came as a god-sent for Bhutto. After the same year that India tested, the Khan took over as the head of the Pakistani nuclear weapons program. It was further reported that in 1975, that Bhutto ordered Munir Khan to be ready to conduct a peaceful nuclear explosion within four years (Langewiesche, 2005).

In the 1980s, it was becoming obvious that Pakistan was developing a nuclear weapons capability. Pakistan's development has primarily relied on acquiring nuclear technology and materials from external sources, as it lacked the indigenous capability to develop nuclear weapons. For example, Pakistan was already struggling by the early 1980s to build a nuclear weapons program. According to NTI (2013), in

summer of 1987, a Pakistan-born merchant living in Toronto, Arshad Pervez, was arrested following a U.S. Customs sting operation. He was planning on acquiring roughly 48,500 pounds of high-quality maraging steel which a specialized material used in gas-centrifuge uranium enrichment. He was also accused of attempting to acquire beryllium, which is used to increase the force of nuclear warhead detonations. The believed end-user for the materials was Pakistan's nuclear arms initiative. Pervez was found guilty of scheming to acquire under false pretenses an export permit for the maraging steel and for trying to send beryllium abroad.

4.2.2 Western Powers

Almost immediately on making the decision to pursue nuclear weapons in 1972, Pakistan began its efforts to acquire a nuclear fuel reprocessing facility in order to produce weapons-grade plutonium (Abraham, 2009). After that, Pakistan began negotiations with Belgian and French companies to purchase a facility. In April 1974, Pakistan signed a contract with a French and Belgian firm, with terms stipulating that it would supply Pakistan with a nuclear fuel reprocessing plant to be constructed at Chasma (USIP, 2010).

Pakistan was dependent on Canada for fuel, spare parts, and heavy water for its Karachi Nuclear Power Plant (KANUPP) reactor. Canada subsequently suspended cooperation in 1976 after Pakistan refused to accept either full-scope safeguards or sign the Non-Proliferation Treaty (NPT) (NTI, 2015).

Pakistan denied that it was developing nuclear weapons and made another round of proposals for a nuclear-free zone in South Asia. In particular, in 1986, the infamous

Dr. A.Q. Khan declared that Pakistan's nuclear program was peaceful, given that Zia had committed to not enriching uranium past 5% (Bhardwaj, 2013). American non-proliferation policy towards Pakistan did not stop it from developing a nuclear weapons option. It slowed down Pakistan's progress primarily through denying it materials and technology through international export controls (NTI, 2013).

After the Indian test in 1974, the United States pushed harder for the advancement of the non-proliferation regime and Islamabad was subject to these pressures even though it has not tested in response to India's test (Chakma, 2004). However, by the early 1980s, following the Soviet invasion of Afghanistan, President Reagan was willing to overlook Pakistani efforts to develop a nuclear capability, although he had a somewhat reluctant U.S. Congress to contend with in this regard (Sanger& Broad, 2007). Non-proliferation pressures mounted again in the early 1990s as the Cold War waned and with it U.S. interests in the region (Chakma, 2004). By the time Pakistan tested publicly for the first time in 1998, the U.S. had less leverage to persuade Islamabad to refrain from testing as it already had imposed significant sanctions in the early 1990s (Richelson, 2006).

4.2.3 China

China has served as a very important nuclear supplier for Pakistan throughout the course of several decades. The relationship between China and Pakistan would blossom into a nuclear one by the end of 1970 (Frankel, 2011). Pakistan sought to strengthen its relationship with China as a way to create more options for its security with India. China's motivations were, in part, to balance India militarily and

politically. In terms of conventional assistance, China has supplied military equipment including tanks, naval vessels, aircraft, missiles, and weapons technology (Kux, 2001). China also eventually supplied Pakistan with nuclear materials, designs for a rudimentary bomb, and missile delivery capabilities. While the extent of Chinese assistance is not precisely known, U.S. intelligence sources have contended that Pakistan would not have been able to complete their bomb project without Chinese support (Kux, 2001).

By 1979, there was speculation that China had provided Pakistan with sufficient weapons-grade uranium to conduct a nuclear test (Frankel, 2011). Pakistan necessarily would have to rely on outside sources at this point because it did not have either a reprocessing plant or uranium enrichment plant operating at full capacity. There was public information in 1980 that Chinese experts were assisting Pakistan in its efforts to enrich uranium (Zhang, 1999). This was quickly followed by reports that China and Pakistan had come to agreement that China would permit Pakistan to test nuclear devices on Chinese territory and supervised by Chinese and Pakistani scientists (Zhang, 1999).

The relationship between China and Pakistan caused the United States to pressure China to practice restraint in supplying nuclear knowledge, technology, and materials. For example, by 1982, one of the factors obstructing a bilateral nuclear agreement between the U.S. and China were the reports that China was supplying Pakistan with items other than fuel-related materials (Denney, 1988). Shortly thereafter, the U.S. put on hold bilateral nuclear cooperation talks with China

because of intelligence reports that it helped Pakistan produce weapons-grade plutonium (Frankel, 2011).

By 1983 there were also reports that China had provided Pakistan with the design of a nuclear weapon, and that China sold enriched uranium to Pakistan (Frankel, 2011). Some nuclear experts also believed that China conducted a test for Pakistan in the Sinkiang desert (Albright, 2001). There was a close military supply relationship that existed between Pakistan and China with the provision of important and sensitive nuclear weapons-related technology and materials because of the relationship.

There were public reports of Chinese atomic scientists working in Pakistani nuclear plants in 1984 (Frankel, 2011). That year also saw the Indian press reported that Pakistan had manufactured a nuclear device, and that China may have assisted Islamabad in testing in China's Takala Makan Desert (Kux, 2001).

Pakistan was able to maintain the flow of aid and not triggering other effects, such as an Indian response. For these reasons, Pakistan's forbearance in conducting a nuclear test during the 1980s was likely in part the result of U.S. aid (Sanger& Broad, 2007).

In 1987, in the wake of the Brasstacks' crisis, it was clear that Pakistan had both the necessary material to construct a nuclear device and had derived significant benefits from Chinese assistance in supplying weapons designs, components, and technology for fissile material production (Ganguly&Kapur, 2010).

The primary pattern that developed is that someone within the Pakistani leadership would claim that Pakistan had the technical ability to make nuclear weapons, followed by a disclaimer that it had no intention to make them.

China's stance in its diplomatic relations with Pakistan and whether it has linked the supply of nuclear technology to Pakistani speaks of ambiguity. Given the importance of the relationship to Pakistan, it is likely that Chinese policy has considerable influence over Pakistan's posture (Frankel, 2011). Even though China may not want to be publicly held as a nuclear supplier, it does not automatically extend to preferring that Pakistan itself remain ambiguous.

CHAPTER 5

5.0 IMPLICATION OF NUCLEAR WEAPON ON INDIA- PAKISTAN RELATION

Prime Minister Rajiv Gandhi revised India's nuclear policy because of the reported increase in Pakistan nuclear capability (Subrahmanyam, 2000). Pakistan also had to consider the reactions of other countries in deciding whether to conduct public tests, particularly in the context of the Cold War. Because there was an on-going strategic relationship between the USSR and India, Pakistan was concerned that any provocation in its part would also invoke a hostile response from the Soviets, and potentially Iran (Soherwordi, 2004). A provocation with nuclear posture could unite India, Iran, and the Soviet Union against Pakistan.

In 1998 when India tested, forcing Pakistan's hand to respond. Both states tested, but for Pakistan, the real threat was the immediate weakness of the economy from other countries sanction(USIP, 2010). This weakness threatened a complete economic meltdown in Pakistan, analogous to the Soviet collapse, whereas India was able to ride the international fallout more comfortably (Chaudhry, 2004).

If Pakistan tested or publicly declared its nuclear status before India, it would be seen as the nuclear aggressor and subjected itself to the same pressure that it hoped the international community would focus on India (Pant, 2007).

The international pressure happen especially from U.S. and alliance such as sanction. When the U.S. had fewer security concerns in South Asia, it was much more willingly imposed punitive measures to slow proliferation. When the U.S. sought to

stop the Pakistani nuclear program, it was only able to slow progress and further discourage Pakistan's leadership from publicly declaring Pakistan a nuclear weapons state (Richelson, 2006). The U.S. was never really in a position to convince the Pakistanis from developing a nuclear option.

The U.S. change its policy of assisting Pakistan despite its nuclear activities, it also moved the baseline of what constituted acceptable nuclear activities are (Sanger& Broad, 2007). Before the Reagan Administration, sanctions were imposed on Pakistan for enriching uranium. Now the rhetoric shifted from the previously disallowed pursuit of a nuclear option, to drawing the bright line at forbidding Pakistan to build a weapons' capability (Michaela, 2008). The focus was no longer on whether Pakistan was developing the ability to build nuclear weapons, but shifted to whether Pakistan was actually building a nuclear explosive device.

Opponents of testing feared that Pakistan would be left more insecure in the future by testing because economic sanctions were sure to follow and would further exacerbate Pakistan's existing economic weakness in comparison to India (USIP, 2010). Proponents of testing focused on bolstering Pakistan's nuclear credibility and deterrence in the face of India's now open nuclear weapons posture. The Indian tests thus led to a tussle between supporters of overt weaponization and proponents of the official policy of nuclear ambiguity (Saran, 2013).

If Pakistan tested, it was economically vulnerable from an overt arms-race with India and renewed sanctions from other states. Moreover, a nuclear test would do to add deterrent credibility. Rather, the concern was that testing would make Pakistan more

insecure by threatening its economic viability. If Pakistan refrained from testing, it would be in a better position to benefit from the proffered economic and military assistance from states hoping to dissuade it. Pakistan might have been able to gain more security over the long run through not testing, especially if significant conventional assistance was forthcoming (Ganguly&Kapur, 2010).

On a different note, agriculture is vulnerable to climate change. A regional nuclear war between India and Pakistan with 5 Tg black carbon injection could decrease single cropping rice production by 23% in Mainland China in the first 3 years after a nuclear event occurred (Xia& Robock, 2013). Regional nuclear war could change global climate significantly and many important agricultural centres might be affected. Although world food storage could temporarily solve some problems, nuclear war impacts on agriculture could last for years, not just from the climate change aspect, but also from the consequences on the economy, societal structure, technology, and labour support. For example, after a nuclear war, ultraviolet radiation at the surface would increase due to ozone depletion in the stratosphere (Mills et al. 2008), which would have a significant impact on crop yield.

After the 1974 nuclear test in India, Pakistan was motivated to speed up its nuclear weapons development (National Security Archive, 2010). This meant that from the late 1970s onwards, India's security planners had to figure out the best way to deal with or against Pakistan's growing nuclear capability. At the same time, Indian leaders had a broader interest in avoiding a regional arms-race or conflict with its

neighbours which is Pakistan. Thus, nuclear ambiguity facilitated Indian intention to counter Pakistan nuclear capability.

India prepared to respond when Pakistan was considering testing. In 1981 there were signs that both states were preparing for underground nuclear tests (Perkovich, 2001). India preparations for a second nuclear test were largely viewed as a reaction to Pakistan's nuclear activities. India test preparations served to remind Pakistan that Indian nuclear development was considerably ahead and cautioned the Pakistanis to not proceed with a testing program.

And as Pakistan continued to develop its nuclear weapons program, Indian leaders increasingly began to make India's restraint contingent on Pakistani nuclear intentions and also began to further emphasize that India had the capability to produce nuclear weapons. For example, Prime Minister Rajiv Gandhi stated in the mid-1980s that India had the ability to make nuclear weapons (Ray, 2009). He also implied that India might change its policy and produce nuclear weapons if Pakistan went too far with its nuclear activities, as "possession of nuclear weapons by Pakistan is very disturbing. Islamabad has already attacked India three times. If they have the bomb, (that) would change all the rules of the game." (Lorber, n.d.). Gandhi further stated that if India decided to become a nuclear weapons state, "it would take a few weeks or a few months. (Ray, 2009). Thus, India's official policy was one of not producing nuclear weapons, but it maintained a protection by not declaring a nuclear state.

Prime Minister Indira Gandhi considered testing in 1981 and again in 1983 (Richelson, 2006). India continued to review its nuclear policy on reports of Pakistani progress. It is believed that Prime Minister Gandhi made the decision to weaponize India's nuclear capability in 1987 (Hansen& Graham, 2000).

Even though India had begun weaponizing in 1987, its restrained nuclear posture enabled it to avoid sanctions, and continue with growing economic and technical cooperation with the U.S. throughout the 1990s (Gupta, 2005).

India responded Pakistan's nuclear developments by signaling that India was prepared to move forward with its own program. India gave serious consideration to either testing or attacking Pakistani nuclear facilities in the early 1980s, although decided against both of these options (Horan, 1994). India was prepared to respond to Pakistani provocations if it was tested. But Indian leaders preferred to keep the nuclear testing remained silent. India was already speeding up its nuclear development amid reports that China had provided Pakistan with a bomb design and technical assistance for uranium enrichment (Sattar, 2000).

Indian officials argued that New Delhi was required to divert its own resources from development programs in order to counter Pakistan's increased conventional capability (Praveen&Chaudhry, 2004). India could afford to wait for further nuclear development. In early 1975, it is estimated that Pakistan was still eight to nine years away from developing an atomic device (Pant, 2007).

India during the 1960s and early 1970s had concerns related to the costs of a nuclear weapons program. To some extent, the cost would be less because New Delhi

already had at least a rudimentary delivery system against targets in Pakistan (Abraham, 2009). However, a nuclear option could only be affordable if it did not take resources away from India's existing conventional superiority. This was no small concern to India, given that it fought two wars with Pakistan during this time period, and was also extremely concerned with Chinese assistance to Pakistan (Zhang, 1999).

There were some indications during 1981 that Pakistan was considering testing a device in 1982 (National Security Archive, 2010). The Indian media further reported in 1983 that Pakistan had tested nuclear triggers and Indian official alleged that Pakistan was "fairly close to manufacturing a weapon" (Frankel, 2011).

During the 1985 visit to the U.S., Prime Minister Rajiv Gandhi asked the Reagan administration to put greater pressure on Pakistan to stop it from going forward with its nuclear program (Richelson, 2006). By late 1985, India was concerned that Pakistan had enough nuclear weapons-grade material for constructing three to five nuclear bombs, notwithstanding Pakistani denials that its program was for peaceful purposes (Saran, 2013). Pakistan's going ahead with a nuclear weapons program introduces a new element into the entire security dimension in this region. However Pakistan claimed the test was the same with India which was for peaceful purpose.

Pakistan followed up again in 1987, with its foreign minister calling for a regional non-proliferation treaty (Michaela, 2008). In 1991, Pakistan's increasingly public rhetoric about its nuclear intentions was also seen by some as a move that, in part, was seen as an effort to force India back to nuclear negotiations (Kapur, 2010). In

addition to suggesting regional non-proliferation measures, Pakistan has also explicitly linked its NPT stance to that of India. The Pakistani position was that it would sign the NPT if India did so (Michaela, 2008).

According to Kerr (2013), the India-Pakistan Non-Attack Agreement provided that both sides would refrain from directly attacking, encouraging, or participating in any action aimed at destroying or damaging any nuclear facility. The agreement was formalized in writing several years later in l988. It was entered into force in 1991. India and Pakistan exchanged lists of their nuclear facilities in 1992 and 1993.

Indian officials were further concerned about the influx of economic and conventional military aid which the U.S. provided Pakistan with during the 1990s (Sanger& Broad, 2007). The Indians contended that U.S. economic assistance was enabling the Pakistani to divert more funds to their nuclear program, and argued that Pakistan would be more likely to stop its nuclear program if Washington cut off the aid (Sanger& Broad, 2007).

According to Saunders, Yuan and Kampani (2000) in 1980s and early 1990s, India had further concerns related to Chinese ballistic missile assistance. By this time there were reports that China provided Pakistan with M-11 missile capabilities, which could be armed with nuclear warhead. Then with a range of 300 km, New Delhi was at risk from the M-11s when they were finally tested in 1999. Prior to this, Pakistan tested the Ghauri missile April 1998, and at a range of 1500 km which could reach most of India.

The Indian test changed the strategic environment surrounding the Pakistani nuclear program in significant ways. It strongly motivated Pakistan to speed up its pursuit of a nuclear option. The Indian nuclear test provided the incentive for Pakistan to speed up the conversion of its civilian nuclear capacity into a dual program that included a weapons option (National Security Archive, 2010). In much the same way that China's 1964 nuclear explosion entrenched the Indian nuclear program, India's 1974 nuclear test similarly heightened Pakistani resolve to provide for its security through nuclear weapons (Burns, 1998).

During the mid-1990s when public reports surfaced that India was considering testing, Pakistani leadership acknowledged their nuclear capability, while also seeking to maintain the status quo in South Asia (Frankel, 2011). February 1996 reports surfaced that Pakistan was preparing a test site in the Chagai Hills and was considering a nuclear test in response to a planned test by India and Pakistan denied these allegations (Kux, 2001).

Pakistan was in a precarious financial state when India tested in 1998. In near bankruptcy, the government could ill-afford to engage in an arms-race with the much stronger India (USIP, 2010). On May 27th, the Ghauri missiles were deployed (Mistry, 2003) and on May 28 , Pakistan conducted the first tests, followed by another one on May 30th, and publicly declared itself a nuclear power (BBC, 1998). Furthermore, much of Pakistan's missile development has also been dependent on China, including the Ghauri missile tested in 1998, which is designed to carry nuclear warheads (Mistry, 2003).

CHAPTER 6

CONCLUSION

Global power structures and international political agendas will be dramatically altered by the emergence of new nuclear states, especially those within common regions that perceive themselves to be at odds with their neighbors. Traditional non-proliferation approaches, such as pressure to sign existing international arrangements, have failed. Inter-regional talks have produced mixed results, but India and Pakistan reject those forms of external involvement which they view as threatening to their vital interests. The domestic instability in each country is serious enough to affect regional relations, and real peace may not occur until these issues are resolved. If such happens and India instils fear among its smaller neighbours, especially Pakistan, the standard line is to dismiss such fears as the figments of imagination of paranoid neighbours. Both sides had a capability which the other side was aware of, either through intelligence or from the protestations of the non-proliferation lobby. This relate to realism theory. Realism is known for its often combine with rationality. It presents an unsentimental and pessimistic view of international relations as being in a perpetual state of conflict where power, security, and material wealth and capabilities motivate states far more than ideas or values. Both sides were also prepared to send signals: both verbal and physical, to re-affirm their capability and demonstrate their will and resolve. This is related to the constructivism theory. Relations between certain countries are the way that they are because that is how states and people believe them to be. Ideas matter more than

material considerations in the conduct of international relations. In the words of leading constructivist scholar Alexander Wendt, anarchy is what states make of it.

Such resolution will also have a different context than that of such treaties as the NPT. Furthermore, certain superpower policies must be re-examined. China continues to view India as an opponent and a Russian ally, and therefore Pakistan gained China's favor. Such resolution remains elusive. There is some room for optimism, however. While the old sources of domestic instability continue to be addressed, there are new opportunities to explore other means of addressing regional security concerns. For example, the changes in the world system may produce new opportunities for equitable, non-aligned treatment of India and Pakistan. The settlement of the India nuclear crisis should not be viewed as independent from their own regional issues, because the nuclear issue has become the main point of conflict between the regional powers. The global economic situation may offer opportunities for new avenues of cooperation, particularly as these nations are seeking economic improvement. India's nuclear weapons exist to counter the threat from China and Pakistan, similarly Pakistan's capability is anti-Indian. These capabilities do not currently pose a threat to other holders of nuclear weapons, or create a destabilizing nuclear tension between those nations.

Both India and Pakistan need to wed their nuclear doctrines to their actual nuclear potential, and the political realties. They also need to view the other's security calculus. India needs to consider Pakistan's inferiority in power and capability, and the resultant sense of insecurity, and Pakistan needs to consider India's huge size, vulnerability to a potential Chinese threat, and world role aspiration. Military buildup

and rivalry gives an out to these strains. All sides should consider a multilateral approach to investigate various cooperative ventures. Ultimately, the nuclear arsenals of South Asia may be capped, perhaps even cut back, and a significant move will have been made toward preserving peace in the nuclear age. The best approach towards preventing nuclear war would focus on reducing the causes of war and the reasons for nuclear arsenal-building. The equally intangible requirements such as, understanding, trust and confidence whilst underpinned by the tangible factors so far considered, also need to be considered in a broader regional and domestic context. This is essential to identify any fundamental challenges to stable deterrence, before any conclusions can be reached on whether it will be truly effective.

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