

Transformation of Pakistan's nuclear posture from minimum credible to full spectrum deterrence

Asia Karim*¹ | Amna Mahmood² | Muhammad Wajeeh Shahrukh¹ | Abdul Jabbar^{3,4}

1. Department of Politics & International Relations, International Islamic University, Islamabad, Pakistan.
2. Department of History and Pakistan Studies, International Islamic University, Islamabad, Pakistan.
3. National Institute of Pakistan Studies, Quaid-e-Azam University, Islamabad, Pakistan.
4. Department of Pakistan Studies, Women University Swabi, Swabi, Pakistan.

*Corresponding Author Emails: scholar2020@gmail.com | amna.mahmood@iiu.edu.pk

Abstract:

After becoming a nuclear power in 1998, Pakistan pursued a policy of Minimum Credible Deterrence. The country transformed its policy from Credible Minimum to Full Spectrum Deterrence (FSD) in 2013. It is important to understand the reasons for this change. The study addressed questions: What were the factors which pressed Pakistan towards the transformation of its nuclear posture? Keeping in view FSD, is there any development in the nuclear force structure of Pakistan? How far FSD would ensure the credibility of the deterrent value of Pakistan's nuclear forces? Transformation in the nuclear posture of Pakistan would be studied under the Theory of Nuclear Deterrence, which postulates that the sole purpose of a nuclear weapon is to stop an adversary from taking aggressive moves. The paper is aimed at evaluating the impact of the change in Pakistan's nuclear posture on the overall strategic environment of South Asia. The study gives an objective analysis of the impact of FSD on Indo-Pak strategic interaction. The study concludes that FSD has successfully deterred the Indian Cold Start Doctrine (CSD) but remained unsuccessful in ensuring strategic stability. With the "New Normal," India will continue to utilise its conventional superiority in its favour.

Article History

Received:
October 12, 2021

Revised:
January 9, 2022

Re-revised:
April 23, 2022

Accepted:
April 30, 2022

Published:
July 4, 2022

Keywords: Cold Start Doctrine, Full Spectrum Deterrence, Indian nuclear policy, Pakistan's nuclear policy, minimum deterrence, tactical nuclear weapons, surgical strike.

How to Cite: Karim, A., Mahmood, A., Shahrukh, M. W., & Jabbar, A. (2022). Transformation of Pakistan's nuclear posture from minimum credible to full spectrum deterrence. *Liberal Arts and Social Sciences International Journal (LASSIJ)*, 6(1), 89-108. <https://doi.org/10.47264/idea.lassij/6.1.7>

Publisher's Note: IDEA Publishers Group stands neutral with regard to the jurisdictional claims in the published maps and the institutional affiliations.

Copyright: © 2022 The Author(s), published by IDEA Publishers Group.

Licensing: This is an Open Access article published under the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>)

1. Introduction

Nuclear weapons have always been considered as a political means for countering wars rather than a tool for fighting wars. Since USSR's nuclear explosion in 1949, a number of strategies have been devised to counter the outbreak of war between the two Cold War rivals as there were risks of escalation and nuclear exchange (Freedman, 2003). "Nuclear weapons are not war fighting weapons" is a time-tested fact because these weapons have always deterred adversaries from open confrontation. But simply possession of nuclear weapons does not mean that it will automatically generate deterrence. The establishment and maintenance of deterrence are dependent on intelligently designed postures and doctrines by the political and military leadership of a state.

Doctrine is a belief system followed by a specific community. It encompasses a set of principles and rules to be followed under specific circumstances (Merriam-Webster Dictionary, n.d.). In terms of military strategy, the doctrine is a guiding principle for the employment of military capabilities. Nuclear doctrines are different from military doctrines, as these are not only restricted to capabilities but also include the deployment of a command-and-control system of nuclear weapons/warheads (Latif, 2014). Nuclear doctrine also guides the qualitative and quantitative built-up of a country's nuclear arsenals.

Coming towards South Asia major irritant between India and Pakistan is the issue of Kashmir. Both have fought two full-scale wars (1947-1948 & 1965) over this issue. In 1971, India intervened in East Pakistan and also attacked the international border of Pakistan, which ultimately resulted in the disintegration of Pakistan. India didn't stop here and tested its first nuclear device in 1974. Apparently, these nuclear tests were aimed at deterring China but in fact, were aimed to terrorize Pakistan over the continuing issue of Kashmir. These events pressed Pakistan towards a self-help system, it pursued a nuclear weapon program and ultimately became a nuclear capable state in 1998 (Khalid, 2013). This situation created an overt nuclear deterrence between India and Pakistan.

Nuclear deterrence is basically a military strategy in which nuclear capable state discourages an attack from another state through the threats of imposing grave and deadly damage (Buzan, 1987). Since 1998 world has witnessed no full-scale conventional war¹ between India and Pakistan because of the deterrent value of nuclear weapons on both sides. Though there were number of crises, but nuclear weapons successfully deterred these from transforming into direct war. 'Conventional asymmetry' is a very important aspect of the South Asian strategic environment. As Pakistan is a smaller state in comparison to India both in terms of resources and military forces. Thus, its nuclear posture since 1998 focused on deterring both conventional (traditional) and non-conventional (nuclear) aggression from its Eastern neighbour. Since 1998, 'First Use' (FU) of its nuclear weapons and 'Minimum Deterrence' (MD) are the two basic pillars of Pakistan's nuclear posture. However, in 2013 Pakistan has revised its posture from Minimum Deterrence (MD) to 'Full Spectrum Deterrence' (FSD).

Current research is aimed at exploring Pakistan's nuclear posture since 1998 and factors which pressed Pakistan for the transformation of its posture from Credible Minimum to FSD. The paper will employ a comprehensive approach to evaluate the question: Can Pakistan really deter Indian aggression (both conventional and non-conventional) through FSD?

2. Literature review

While exploring the literature on nuclear deterrence between India and Pakistan some studies were very interesting. The most important work in this direction was that of Sagan (2001) who argued that the possibility of the failure of nuclear deterrence in South Asia is high. Hoyt (2001) also speaks about the possibility of deterrence failure because of irrational decisions by the policymakers of both India and Pakistan. Krepon (2005) presents a different perspective; he is of the opinion that South Asian nuclear environment is characterized by a stability-instability paradox. Owing to conventional asymmetry, this paradox increases the chances of full-scale nuclear war. He also explained how a limited conventional war can easily escalate to nuclear exchange because of the non-existence of escalation-control measures between India and Pakistan (Krepon, 2005). Kapur (2007) work analysed how nuclear deterrence restrained India's strategic maneuvering by limiting the freedom of exploiting its conventional superiority against Pakistan. He further argues that a time will come when India tries to exploit the space between nuclear and conventional levels. This thing will definitely be escalated to nuclear war (Kapur, 2007). Ganguly and Kapur (2009) are of the opinion that the introduction of nuclear weapons added to strategic stability between India and Pakistan.

Some scholars argue that the mere acquisition of weapons doesn't ultimately result in deterrence. Rather these are the nuclear postures and doctrines that deter a potential adversary from taking aggressive moves. In this direction, Freedman's (2003) work gave a comprehensive analysis of the development of nuclear strategies from 1945 to the end of the Cold War. The writer has explained different concepts and doctrines of the Cold War like that of massive retaliation, mutually assured destruction, second-strike capability and limited nuclear war. In addition to these American concepts, writer has also explained nuclear policies and strategies of Soviet Union, China and European countries. The book is a detailed account of the arms race between USA and USSR in search of credibility during Cold War. This book explained all events chronologically, from the nuclear bombing of two Japanese cities to the US invasion of Iraq. Apart from three major powers (America, Russia and China), nuclear strategies of France, Britain, Pakistan, India and North Korea are also briefly discussed. One of the major conclusions of this book is that nuclear weapons are only the weapons of politics and deterrence (Freedman, 2003).

Narang (2010) has emphasized the role of nuclear postures in enhancing or undermining nuclear deterrence between India and Pakistan. He is of the opinion that the change of nuclear posture by Pakistan has restricted India's freedom of strategic maneuvering. He concludes that this situation can give rise to the unintentional exchange of nuclear weapons (Narang, 2010).

Chakma (2006) gave a detailed account of Pakistan's nuclear posture and some of its basic components like; Minimum Deterrence, First Use, Massive Retaliation and intended targets. Khan (2016) discussed the logic of Pakistan's Minimum Credible Deterrence since 1998 and the factors which pressed Pakistan to transform its Minimum Credible posture to Full Spectrum. The writer also mentioned international concerns regarding Pakistan's tactical nuclear weapons and justified the possession of this weapon in the prevalent regional geo-strategic, geo-political and security environment (Khan, 2016). Siddique (2015) discussed the inception of deterrence, deterrence policies and strategies of South Asian archrivals (India and Pakistan). The writer has justified Pakistani shift from 'Credible Minimum' to 'Full Spectrum' deterrence as the structural constraint under contemporary regional and international dynamics. Paper also briefed about the concerns of India and the international community about FSD and the operational aspects of this doctrine (Siddique, 2015).

After reviewing the literature, it was found that the transformation of Pakistan's nuclear posture is efficiently dealt by different researchers. However, all have focused on some specific aspects of FSD. The present research is aimed at a systematic and chronological study of Pakistan's nuclear journey from 1950s to the transformation of its nuclear posture in 2013 and subsequent developments for the implementation and adaptation of new posture. The study will try to probe out Indian response to the change of Pakistan's nuclear posture and new doctrinal and tactical developments at a strategic level.

3. Theoretical framework

The theory of Nuclear Deterrence has its roots in realism (Cheema, 2010). Deterrence is derived from a Latin word "deterrer", where "de" stands for "away" and "terror" stands for "frighten". So it signifies dissuasion or hindrance through the tools of terror, fear and anxiety (Collins English dictionary, n.d.). It is the ability of one actor to discourage other from attack through the threats of causing incurable damage. Major proponents of the theory of nuclear deterrence are Bernard Brodie, Jacob Viner, Bush, William Borden, Basil Liddell Hart, P.M.S Blackett (Buzan, 1987), Herman Kahn, Thomas Schelling, Albert Wohlsetter, Oskar Morgenstern, William Kaufmann and Glenn Synder (Zagare & Kilgour, 2000). Major assumption of this theory includes:

- Rationality means rational leaders will not decide to initiate nuclear conflict in pursue of national interest because of the high costs and risks involved in it (Sridharan, 2007).
- Severe conflict, both sides view the existence of the other as a potential threat to its security and would never hesitate to initiate war, if calculated benefits exceed the costs and the chances of success seem very promising (Morgan, 2003).
- Use of the threats of retaliation and punishment for deterring a potential aggressor.
- Effective preparation for war reduces the chances of its occurrence.
- Defensive nuclear capabilities stabilize the situation but if offence predominates then war becomes inevitable.

- Second strike capability is a prerequisite for effective peace and stability. As Mearsheimer has said “more horrible the prospects of war, less likely it would occur”.
- Theory encourages high and sophisticated build-ups aiming at deterring unilateral actions.
- Quantitative arms race adds to stabilization whereas qualitative arms race increases the chances of pre-emption from the side of a technologically sophisticated one. Mearsheimer puts it in this way “power inequalities invite war, hence war is minimized when inequalities are least” (Zagare *et al.*, 2000).

Deterrence is both a physical and psychological phenomenon. Physically it requires the military preparedness of the deterring state and this physical preparedness is used to cause psychological impressions in the mind of opponents regarding the unaccepted and dreadful consequences of any possible misadventure. Thus, the effectiveness of deterrence is dependent upon three important factors namely capability, credibility and communication (these are generally known as the three C's of deterrence). Capability means the physical ability or potential (military instrument and technical vigorous) of one actor to inflict deprivations and harms to an adversary that would exceed its calculated benefits. Credibility means determination and will to use these capabilities in the hour of need. Deterrence would definitely fail if the deterred state is not hundred percent sure about the potential threats from the deterrer. Third and most important requirement of effective deterrence is communication means conveying one's adversary the consequences of undertaking a prohibited action (Baylis & Booth, 1987).

A basic assumption of Nuclear Deterrence Theory is that the costs of nuclear war made it impossible and that through the threats of retaliation and punishments a state can deter harmful act of others is quite evident in South Asia. Because after 1971, no full-scale war occurred between India and Pakistan. Assumption of rationality has also been proved as both Indian and Pakistani leaders have deterred the potential escalation of 1999 Kargil crises, 2001-2002 border standoff, Mumbai crises, Uri attacks and Balakot strikes into an all-out war. As far as second-strike capability is concerned, India has successfully induced nuclear capable sub-marine Arihant into its arsenals. And Pakistan also successfully launched a submarine cruise missile. But both sides are still long way from an assured second-strike capability. Both the states are indulged in a nuclear arms race with the rational of not giving a unilateral first strike advantage to the other. But this arms race has serious implications for India and Pakistan because more than half of the population in both countries is living below the level of poverty and are even deprived of the basic necessities of life.

International community became very much concerned about the command and control of Pakistan's nuclear weapons, after the discovery of an international network run by DR. A.Q Khan. In 2004, Khan had confessed publicly that he had personally passed nuclear secrets and technology to other states namely Iran, Libya and North Korea without the authorization of the government of Pakistan (Gupta, 2007). After these confessions, Khan was put under house arrest and was dismissed from his position. But USA and IAEA were never allowed by Pakistan

government to access Qadeer Khan. After these incidents, Pakistan had worked hard to ensure the safety of its assets. In this direction, Pakistan Nuclear Regulatory Authority (PNRA) and Nuclear Command Authority (NCA) were established. Since the creation of these infrastructures no security lapse was reported in Pakistan (Rosenstein, 2010). Incidents of uranium thefts and smuggling in India present a strong case where this material can easily be acquired by terrorists, or any mishandling will culminate in a devastating accident. Such incidents are common in India; details are mentioned in the table-1 below:

Table-1: Incidents of uranium theft in India

S.No.	Year of theft	Amount of Uranium smuggled	Area of Incident in Indian Union
1	1994	2.5 Kg	Domiasiat region
2	June 1998	More than 1000 Kg	West Bengal
3	July 1998	8 Kg	Tamil Nadu
4	2001	200 grams of semi-processed Uranium	West Bengal
5	2003	225 grams millied Uranium	Near Bangladesh Border
6	2006	Container full of Radioactive material stolen from government run agency	Eastern India
7	2008	-	India's State owned mine
8	2013	Uranium Ore	Government run military complex in Northeast India
9	2016	9 Kg	Thane
10	2018	1 Kg	Kolkota
11	May 2021	7 Kgs	Maharshtra
12	June 2021	6.4 Kgs	Jharkhand

Source: Akmal (2021)

All these incidents are evidence of the fact that a strong black market exists in India which also has roots in its nuclear affiliated agencies and infrastructure (Akmal, 2021). Thus, it could be said that the chances of accidental and unauthorized use are very high in the Indian case. Apart from this, lack of early warning system is a critical concern. Pakistan is totally dependent upon China for its early warning system whereas India has its own satellite. But this satellite monitoring power is limited. For the avoidance of any mishap, Pakistan needs to develop its own reliable early warning and surveillance system (Cheema, 2010).

Deterrence postulation that effective preparation for war reduces the risk of war is very apt for the current study. Through Cold Start, India has devised a strategy to exploit its conventional superiority in a nuclearized environment. For countering this threat Pakistan introduced a new dimension to the regional strategic environment through the possession of tactical nuclear weapons. In reaction India revised its strategic doctrine and 'Cold Start' was replaced by 'New Normal'.

It can be concluded that, nuclear weapons have effectively deterred conventional wars, but it has not deterred low-intensity and sub-conventional conflicts. A number of limited military adventures continued between India and Pakistan from 1999 till day. Apart from this, both are

blaming each other for supporting proxies and initiating sub-conventional conflicts against each other. India is blaming Pakistan for being involved in cross-border terrorism. On the other hand, Pakistan is claiming Indian involvement in terrorism and sectarian violence on its territory. Till day nuclear weapons (and postures) have ensured an “uneasy peace” between India and Pakistan.

4. Research methodology

This article is based on a qualitative research method and deductive approach and is basically descriptive and analytical in nature. Majority of the work is based on secondary sources which include books, research journal articles, magazine articles, newspaper articles, internet sources such as Google scholar, online libraries and HEC library etc. Primary sources for the current study are limited to ISPR Press briefs, statements of governmental officials, Indian nuclear doctrine 2003 and 2015 interview of General Kidwai with Peter Lavoy (available online). Topic is described and analysed under the paradigm of Nuclear Deterrence Theory, which provides rationale for the behaviour of nuclear capable rivals.

5. Pakistan’s nuclear program: analysis and discussion

Since its independence, Pakistan was surrounded by a number of economic and security issues. This situation did not permit it to give attention to the development of nuclear capabilities, in the early years of its creation. Pakistan in 1953 started working in the nuclear field, owing to the American policy of “Atoms for Peace” (Mukhtar, 2013). The Council of Scientific and Industrial Research (CSIR) was established in April 1953 (Hoodbhoy & Polyani, 2013), National Atomic Research Unit in October 1954 and Atomic Energy Council in 1956. Pakistan’s Atomic Energy Council (PAEC) consisted of two bodies; one was the governing body and the other was Atomic Energy Commission (Mukhtar, 2013). In 1955 Pakistan and USA signed a five year agreement for cooperation on the civil use of atomic energy. No considerable success was made in the nuclear field during this era. It was only after 1958 that serious efforts were made by the government of Pakistan in the nuclear field (Mukhtar, 2013). In 1960 government of Pakistan finalized its atomic energy law. Through this PAEC was authorized as an autonomous body. Pakistan Institute of Nuclear Science and Technology (PINSTECH), consisting of a research reactor and a reprocessing plant, was founded in 1963. During the same year through its atom for peace program, America provided Pakistan with “Pakistan Atomic Research Reactor” (PARR), for getting another atomic power reactor; Pakistan consulted Canada and signed a deal in 1965. For educating and training Pakistani scientists and engineers, Centre for Nuclear Studies (CNS) was established in 1969 (Chakma, 2009).

Major impetus to Pakistan’s nuclear program came after its disintegration as result of civil war and India’s intervention therein in 1971. Thereafter, Pakistan’s security policy got revised and consequently Pakistan’s civilian nuclear program was converted to a military direction. The

basic logic behind this ambition was that being inferior in terms of conventional capabilities, Pakistan must gain an upper ground in non-conventional weaponry so that India could be kept at bay on the future. In addition, nuclear tests by India in 1974 further accelerated Pakistan's nuclear program. This explosion further intensified Pakistan's sense of insecurity vis-à-vis India (Menon, 2000).

In 1976, Pakistan signed an accord with France for the purchase of a plutonium reprocessing plant. But France withdrew from the accord in 1979 due to international pressures (Chakma, 2009). After the termination of Pak-France contract, the former was left with no option but of uranium enrichment. Uranium enrichment plant was established in Kahuta under the chairmanship of A. Q. Khan called Kahuta Research Laboratories (KRL). During this period nuclear weapon program was going in two different places namely PAEC and KRL. PAEC was working on designing and production of fuel and KRL was involved in uranium enrichment. In 1984, reports started emerging that Pakistan has successfully mastered nuclear path (Khalid, 2013). However, it was only in 1992 that senior officials, A. Q. Khan and Sharyar Khan (Foreign secretary of Pakistan) publicly claimed that Pakistan is a nuclear capable state (Dixit, 2002).

In 1998 Pakistan detonated its own bomb. The major motivation behind Pakistan's nuclear program was Indian threat and a desire to maintain a balance of power in the region. However, the immediate reason was five Indian nuclear tests. After those, the tone of than BJP coalition government became more threatening towards Pakistan.

5.1. Pakistan's nuclear posture

Possession of nuclear weapons doesn't mean that it will automatically deter an adversary from taking threatening moves. Rather the role of nuclear weapons in the defence strategy of a state is very much dependent on its doctrine/ posture (Siddique & Faisal, 2016). Nuclear doctrine of states is much different from state's foreign policy, political strategy or even a military doctrine. Nuclear Doctrine usually addresses two basic problems; one is "deployment" and the second is "management". Deployment problem includes the issues related to the defined circumstances under which weapons could be employed, whereas management problem is related to the execution of the proposed strategy under deployment problem. In simple words management means the effective command and control system, which not only prevents unintentional nuclear use but also ensures the deterrent and retaliatory power of the nuclear assets of a state (Chakma, 2009). As discussed in the introduction that nuclear weapons are political weapons, and these are meant only for deterrent purposes. Thus, deterrence is at the 'heart' of the nuclear policy of any state.

Soon after Pakistan conducted its nuclear test in 1998, there was a need for a comprehensive nuclear doctrine or strategy. Although Pakistan successfully mastered nuclear path in mid 1980s, but since then till 1998 there was a covert nuclear deterrence between India and

Pakistan. Covert nuclear deterrence is also termed as non-weaponized deterrence because the gap between perceived and actual capabilities is not exactly known (Kampani, 1998). It signifies that despite being a nuclear capable state, Pakistan followed a policy of denial and ambiguity. But with the tests of 1998, Pakistan departed from its policy of denial. Therefore, it became mandatory for Pakistan to clearly outline the role of nuclear weapons in its national security policy.

Pakistan government has not issued its official nuclear doctrine. Thus, for gaining an insight into its nuclear posture, one has to rely on the statement of the military and political leadership of Pakistan (Hussain, 2005) and the detailed press briefs from Inter Services Public Relations (ISPR) followed by nuclear tests.

Basic features of Pakistan's nuclear posture are:

- Pakistan's nuclear policy is India centric which means its nuclear strategy is aimed at deterring possibilities of India's military offence and maintaining escalation dominance (Lavoy, 2009).
- First Use (FU) is the basic feature of Pakistan's nuclear posture, logic behind this is Indian conventional superiority. If Pakistan opt No First Use (NFU) then chances of conventional war become predominant (Aliff *et al.*, 2016)
- Minimum Credible Deterrence.

5.2. Minimum credible deterrence

Concept of Minimum Deterrence (MD) can be traced back to Bernard Brodie's "Strategy in the missile age" (1959). Brodie stated in his book that after the advent of nuclear weapons: "The potential deterrence value of an admittedly inferior force may sharply be greater than it has ever been before". Thus, MD means that a small but credible nuclear force structure can effectively stop potential aggressor from undertaking offenses. Brodie concept of MD is connected to "existential" or "basic deterrence" (Brodie, 1959). Modern concept of MD is slightly different from Brodie which takes its roots from the concept of "Proportional deterrence" (Joshua, 2016). This concept is based on the logic that in order to make deterrence effective, deterrer state must set an aggressor. So that it could make decisions regarding retaliatory options keeping in view the potential aggressor (Debouzy, 2009) specifically conveying to the enemy that an act of aggression will not result in any type of gains for it, rather it would destroy all possible advantages.

Another important component of MD is the desired target of nuclear weapons. In nuclear realm there are two types of targets namely: counter force and counter value. Counter forces are military and counter value is civilian targets. In both new and old concept of Minimum Deterrence "counter value" are the desired targets (Wiitala, 2016). With the nuclear tests in 1998, Pakistan declared that its nuclear policy will be based on the principle of "Minimum

Credible Deterrence” (Zhara, n.d.). In 1999 Abdul Sattar stated: “Minimum has been and should continue to be the guiding principle of Pakistan’s nuclear posture, minimum cannot be described in the static term. Indian built-up would necessitate review but we shall not engage in an arms race” (Pakistan’s Response to India’s Nuclear Doctrine, 1999).

The above statements show that Pakistan’s nuclear posture will be Indo-centric and that it will pursue only that much nuclear warheads and technology which would ensure their deterrent value and would not go for an arms race. Thus, Pakistan needs to keep close eyes on India’s built-up and modernization program (both conventional and non-conventional) (Tasleem, 2016). As Siddique and Faisal concluded that under the umbrella of MD Pakistan is aimed at deterring pre-emptive strikes and aggression both strategic and non-strategic. It will resort to nuclear use when it is left with no other choice (Farzana & Muhammad, n.d.). Side by side Pakistani policymakers also hinted about the possible thresholds where it would resort to the use of nuclear weapons. These thresholds are losing a large part of territory, destruction of a large part of its armed forces and the imposition of a naval blockade (Baharat, 2005).

5.3. Factors responsible for change of Pakistan’s nuclear doctrine

Changing regional and global environment along with Indian growing nuclear and military muscles coupled with its technological innovation compelled Pakistan to re-evaluate its posture. Some important factors that pressed Pakistan’s policymakers for the transformation of its posture are discussed in the following section.

5.3.1. Indian cold start doctrine

CSD is one of the major factors which pressed Pakistan to review its posture. It is basically a proactive military doctrine aimed at launching a surprise and limited offence against Pakistan, without crossing its nuclear threshold. This strategy was devised by Indian after the failure of Operation Parakram (2001).² CSD was officially announced in 2004. With this policy three strike corps of Sundarji Doctrine were replaced by 8 small divisions called Integrated Battle Groups (IBGs)³ and seven holding groups were renamed as Pivot corps and were provided with additional artillery, infantry and tanking for enabling them to conduct limited offence. According to the plan, 8 IBGs with full coordination of IAF and Navy will launch quick offences on multiple locations along Pakistani border, enter Pakistani territory within “seventy-two to ninety-six hours” and will capture almost fifty to eighty kilometres of its territory. Such objectives are aimed at demanding concessions from the later during post-war dialogues (Abdullah, 2012).

Element of surprise and pursue of limited objectives are at the heart of this new policy and for this purpose, its proponents stressed the need of quick deployment and operation, as to leave Pakistan and international community with no time to craft any retaliatory move. Through this strategy, India is aimed at gaining a stranglehold over a thin piece of territory. One of the most

important aspects of this plan is Indian hope of operating below nuclear thresholds of Pakistan. Indians argue that aims of such strikes are not to threaten adversary's existence or territorial integration, thus leaving it with no rationale of nuclear use. Thus, it can be said that the new strategy is devised to engage Pakistan in short crises without crossing its nuclear thresholds (Ladwig III, 2008).

5.3.2. Ballistic missile defence

Another important development which enhanced Pakistan's threat perception is Indian development of its Ballistic Missile Defence Shield (BMDS). Indian BMD program owes its origin in 1980's. BMD enables a country to detect, track, intercept and destroy incoming ballistic missiles during their boost⁴, midcourse⁵ and terminal phase.⁶ System can be deployed in air, sea and land (Reif, 2019). Major boost to the program came after Indo-US defence cooperation in 2005. Prithvi Air Defence (PAD) and Advanced Air Defence (AAD) are the two components of Indian BMD program. The PAD is designed for high-altitude, 50-80 km interceptions and AAD for low-altitude, 15-30 km interceptions (Auner, 2003). First test of the shield was conducted in 2006 followed by two more in 2007 and 2009 (Sharma, 2009).

In May 2018, India has successfully tested its Advanced Area Defence (AAD) Missile. In addition to this India is also purchasing S-400 air defence missiles from Russia which is capable of intercepting both incoming missiles and aircrafts (Peck, 2018). According to expert's major aim behind such developments is to reach such a level of advancement in terms of weapons that will neutralize the capabilities of Delhi's opponent. Some Indian strategists argue that BMD would be quite helpful in guarding India from a retaliatory measure in the face of its adventurism (Jaspal, 2011).

5.3.3. Sea based nuclear capabilities

India is working on its naval nuclear program. Indian efforts toward a nuclear triad can be grouped into four categories. First, India is constructing Scorpions submarines with the help of France. Secondly, it is getting submarines from Russia. Thirdly, Up-gradation of existing submarines, which are German and Russian based. Fourthly, working on indigenous Arihant-class nuclear SSBN (Jalil, 2018). In 2018 India has successfully tested its Arihant, which is currently undergoing a sea acceptance trial (The Economic Times, 2018). With these nuclear submarines in its navy, India has successfully completed its nuclear triad, thus an assured second-strike capability.

5.4. Full spectrum deterrence

Above mentioned developments adding to asymmetry between India and Pakistan pressed later to revise its nuclear policy. In order to enhance the deterrence value of its strategic forces in adverse environment, Pakistan announced departure from Minimum Credible Deterrence to

FSD in 2013 National Command Authority of Pakistan announced that onwards its nuclear policy will be guided by the concept of FSD (Altaf, 2017).

Through FSD, Pakistan wants to deter all forms of aggression including conventional, non-conventional (as envisioned by CSD) and nuclear. Under this Pakistan is focusing on the development of three major categories of weapons namely: strategic, operational and tactical. Logic behind this aspiration is to bring each and every part of Indian Territory in the striking range of Pakistan, so as to leave the former with no space for retaliatory moves. Through the new poster Pakistan has also revised its “target policy”, as it is now aiming at attacking counterforce targets. Now Pakistan is having a flexible response. This means that Pakistan has the option to choose targets between military installations and population centres (Kidwai & Lavoy, 2015).

5.4.1. Operationalizing full spectrum deterrence

With the change in nuclear Posture, Pakistan has also transformed in military doctrine in 2013. Through this militancy and terrorism were mentioned as major threats to the national security rather than India. Through this alteration, Pakistan is actually focusing on sub-conventional warfare and proxy tactics by the enemy (Observer Research Foundation, 2013). With this Pakistan has also focused on conventional built-up and launched a minimum military modernization program. For Example, “Spada-2000 Air Defence System” and “Saab-2000”, air born early warning and control aircrafts were inducted to PAF. PAF is also in the possession of two squadrons of Unmanned Ariel Vehicles (UAVs) which will soon reach the level of six (Jaspal, 2009). In addition to military modernization, Pakistan also focused on the training of its personnel and for this military exercises, Azme-e-Nau, was conducted in 2010, in Punjab and Sindh near Indian borders. Meanwhile, PAF also initiated its exercise “High Mark”. These exercises demonstrated the military preparedness of Pakistan's armed forces and were the expression of a joint counter offence by its army and air force (Khattak, 2011).

Most significant step in the implementation of FSD is the possession of tactical nuclear weapons by Pakistan. In 2011 and 2012 Pakistan tested its short-range ballistic missiles Nasr and Hatf II/Abdali. These short-range missiles are basically the response to Indian CSD. Through which Pakistan is aspiring to find a space for conventional war in a nuclearized environment. These weapons are aimed at targeting the invading forces in the battlefield (Yamin, 2015).

For countering Indian Triad and moving towards a second-strike capability Pakistan has successfully tested a Submarine Launched Cruise Missile (SLCM) in 2017. In 2018 Pakistan again conducted tests of Babur cruise missile but this time from a submerged platform of Arabian Sea. Babur is likely to be deployed with Pakistan's French *Agosta 90B*-Class submarines. Pakistan is also procuring Chinese Type 039A submarines, which may also serve as a launching platform for SLCM. The ISPR's release notes that Babur provides Pakistan with

a “credible second-strike capability, augmenting the existing deterrence regime” (Panda, 2018). With the induction of Shaheen-III (Range 2,750 kilometres), Pakistan has access to all landmasses of India, including Nicobar, and the Andaman Islands in the Bay of Bengal which are being developed by India strategic bases. If those bases are not covered then inadvertently Pakistan will be allowing a second-strike capability to India within its land borders (Kidwai & Lavoy, 2015).

5.5. India’s Response to full spectrum deterrence

Indian reaction to Pakistan’s change of nuclear posture can be divided into two groups. One group, nuclear pessimists, presses Indian government for a change of its nuclear doctrine. They base their claim on the argument that India’s policy of “No First Use” (NFU) will give Pakistan an upper hand on the nuclear escalatory ladder. They also claim that the strategy of “assured retaliation” is insufficient to deter Pakistan’s FSD posture. Thus, they voice for re-evaluation and revision of the nuclear posture of India. On the other hand, nuclear optimists are ok with prevailing Indian doctrine. They are of the view that the reliability of low yield nuclear weapons (or tactical weapons) against an advancing military group is highly questioned. Further destroying a single armor unit requires hundreds of such weapons, which will soon exhaust Pakistan’s stock of tactical weapons. And India will be left open with the option of using strategic weapons in retaliation. These scholars accept the fact that Pakistan’s FSD has left Indian CSD inefficient. But they strongly believe that even in FSD there is a room for a limited conventional military action (surgical strikes) (Hooey, 2019).

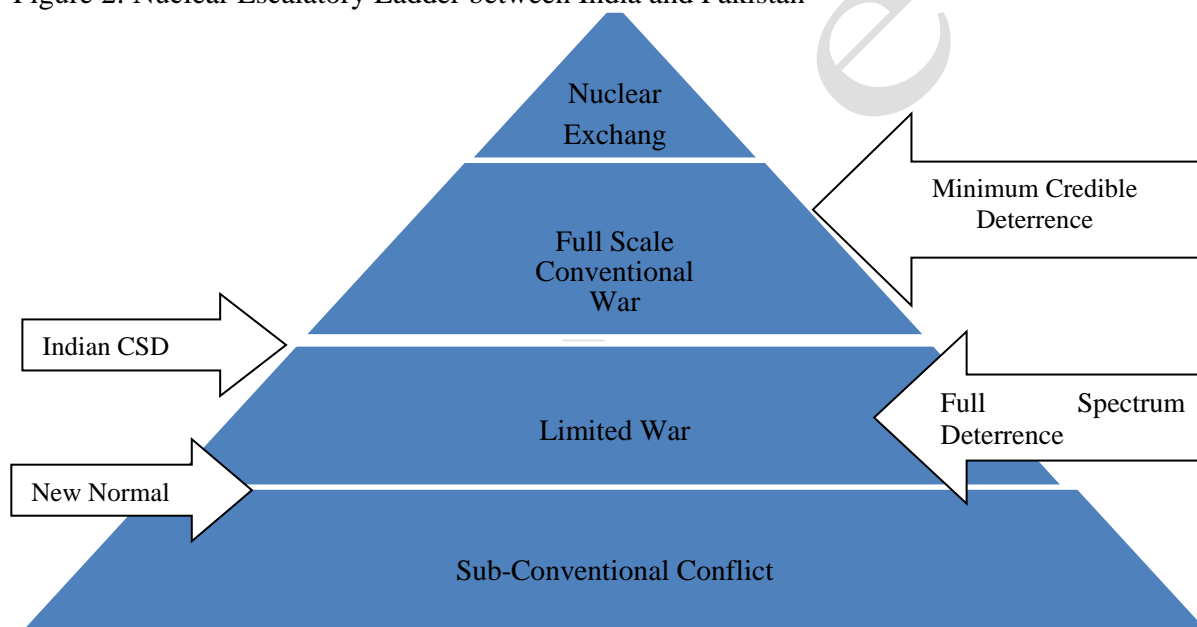
In September 2016, Indian army brigade was attacked by terrorists (commonly known as Uri attacks). India claimed Pakistani based terrorist organizations for these attacks and has decided to retaliate. Ten days after attacks, Indian government claimed that it has successfully conducted “surgical strikes” against terrorist camps in Pakistani administered Kashmir (Gokhale, 2017). Then Indian Director General of Military operations claimed that they have intelligence reports of more terrorist infiltration from other side of LOC, thus 2016 surgical strike was a pre-emptive effort for thwarting these threats (Biswas, 2017, p. 08). It can be argued that through these surgical strikes India tried to exploit the gap between Pakistan’s lowered nuclear threshold via tactical nuclear weapons. On its part Pakistan’s government has denied any such attack.

February 2019 witnessed another terrorist attack on Indian army at Pulwama (IHK). India again claimed it to be a Pakistani sponsored attack and Indian Air Force launched offensive air strikes in Balakot. Soon after attacks emergency meeting of National Security Council (NSC) was called, and it was decided to give India a befitting reply for violating its territorial integrity (Joshi, 2019). The very next day Pakistan Air Force retaliated, during the areal clash Indian MiG-21 was destroyed and its caption Abhinandan (Indian Wing Commander) was captured. After some days he was released by Pakistani authorities as a goodwill gesture.

Balakot strikes added a new dimension to nuclear deterrence stability between India and Pakistan. As Tellis observed “Balakot represents the erosion of psychological barrier in Indian strategic circles----with this India has opened up the doors of punitive actions” (Tellis, 2019). These strikes have successfully avoided Pakistan’s red lines and have left Pakistan with no excuse of initiating a nuclear strike (Chaudhury, 2019). This confidence can be assessed by the statement of General Bipin Rawat (Chief of Defence Staff) when he said “India would not just repeat the Balakot strike but will do something beyond that” (Jesudasan, 2019).

After Balakot episode, India military adopted a more offensive doctrinal posture named “New Normal”. Through New Normal India embraced ‘surgical strikes’ as a part of its strategic posture in a nuclearized environment of South Asia. Pakistan’s efficient response to Balakot strikes is evident by the fact that despite prevailing conventional asymmetry, Pakistan can restore deterrence through conventional means (Malik, 2019).

Figure 2: Nuclear Escalatory Ladder between India and Pakistan



6. Conclusion

Relations between the two South Asian neighbours (India and Pakistan) have remained antagonistic since independence. This hostility can be attributed to mutual mistrust, political differences and territorial disputes. This rivalry was transformed into actual hostilities on number of occasions (1947-48, 1965 and 1971) but the covert nuclearization of India and Pakistan (in mid 1980s) restrained both from initiating full-scale wars. That way both refrained from direct hostilities since 1971. India being conventionally superior was frustrated by the constraint imposed by nuclear weapons thus in 2004 it came up with a proactive strategy named “Cold Start Doctrine”. This strategy paved the way for a limited conventional war below the nuclear threshold of Pakistan. Being conventionally inferior, Pakistan was very much concerned about this strategy and was continuously exploring ways for countering this.

Transformation of Pakistan's nuclear posture in 2013 was the most important step in this direction. Subsequent exercises, organizational changes and induction of tactical nuclear weapons put serious question marks on Indian CSD.

On its part India remained unsuccessful in successfully implementing its CSD. And CSD remained only a paper tiger even during 2008 Mumbai crisis. Afterwards, relations between India and Pakistan remained tense followed by heavy cross-border firing. Indian policy makes under severe public pressure remained busy exploring avenues of exploiting any space below Pakistan's red lines. Intelligently Indian strategists came up with the option of a surgical strike. Surgical strikes can never be defined as a traditional conventional war rather it can be categorized as a part of "hit and run strategy". Thus, came under the 'sun-conventional' conflicts in the nuclear escalatory ladder. India claims of successfully conducting surgical strikes in 2016 against the self-proclaimed terrorist camps in Pakistan Controlled Kashmir. But Pakistan denied any such incident. However, the Balakot strikes of 2019 gave rise to a conventional retaliation by Pakistan military the very next day. Following diagram will help us to understand the nuclear escalatory ladder and Pakistan's doctrinal response to each escalatory move aimed at avoiding conventional attack from a conventionally superior neighbour.

Post FSD developments between India and Pakistan are evident to the fact that the doctrinal shift has successfully deterred Indian CSD but has not fully deterred Indian desire of initiating a limited conventional offense below the nuclear threshold. Though surgical strikes cannot be labelled as conventional warfare, it is a sort of sub-conventional tactic. However, through FSD Pakistan aimed to deter all sort of threats from India. So, India's New Normal puts a big question mark on the scope of Pakistan's FSD. Thus, in addition to enhancing its conventional capabilities and diplomatic clout Pakistan need a revision in nuclear and conventional war fighting doctrines for addressing sub-conventional adventurism by its Eastern neighbour.

Declaration of conflict of interest

The author(s) declared no potential conflicts of interest(s) with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

References

- Abdullah, S. (2012). Cold start in strategic calculus. *IPRI*, 12(1), 1-27. <https://www.ipripak.org/wp-content/uploads/2014/01/art1asanw12.pdf>
- Akmal, H. (2021, June 8). Nuclear trafficking in India. *Strategic Foresight for Asia*. <https://strafasia.com/nuclear-trafficking-in-india/>
- Aliff, S, M., & Fowsar, M. A. M. (2016). Pakistan's Nuclear Policy and Development: A Srilankan Perspective. *International Research Journal of Management, IT and Social Sciences*, 2(9), 57-67.
- Altaf, B. (2017). Policy of Full Spectrum Deterrence. *Pakistan Observer*. <https://pakobserver.net/policy-full-spectrum-deterrence/>
- Auner, E. (2013). Indian missile defence program advances. *Arms Control Today*. http://www.armscontrol.org/act/2013_01-02/Indian-missile--program-advances
- Baharat, K. (2005). The irrelevance of Classical Nuclear Deterrence Theory". *Indian Review*, 4(2), 173-213. <https://doi.org/10.1080/14736480500225640>
- Baylis, J., & Booth, K. (1987). *Contemporary strategy: theories and concepts* (2nd ed.). Holmes & Meier Publication.
- Biswas, A. (2017). Surgical strikes and deterrence-stability in South Asia. *ORF Occasional Paper*, 115. [https://www.orfonline.org/wp-content/uploads/2017/06/ORF OccasionalPaper 115 SurgicalStrikes NEWFINAL .pdf](https://www.orfonline.org/wp-content/uploads/2017/06/ORF_OccasionalPaper_115_SurgicalStrikes_NEWFINAL.pdf)
- Brodie, B. (1959). *Strategy in the missile age*. Princeton University.
- Buzan, B. (1987). *An introduction to strategic studies military technology and international relation*. Macmillan Press.
- Chakma, B. (2009). *Pakistan's nuclear weapons*. Routledge.
- Chakma, B. (2006). Pakistan's nuclear doctrine and command and control system: Dilemmas of small nuclear forces in the second atomic age. *Security Challenges*, 2(2), 115-133. <https://www.jstor.org/stable/26459035>
- Cheema, Z. I. (2010). *Indian nuclear deterrence*. Oxford University.
- Chaudhury, R. (2019, April 2). India-Pakistan: brinkmanship of a new era. *IISS Expert Commentary*. <https://www.iiss.org/blogs/analysis/2019/04/india-pakistan-brinkmanship-of-a-new-era>
- Debouzy, P. O. (2009, Nov 26). Nuclear deterrence: the permanent and the change. *La Revue Geopolitue*. <https://www.diploweb.com/Nuclear-deterrence-the-permanent.html>
- Definition of Deterrence. (n.d.). *Collins English dictionary*- Complete and unabridged (10th ed.). <http://dictionary.reference.com/browse/deter>.
- Dixit, J. N. (2002). *India-Pakistan in war and Peace*. Books Today.
- Observer Research Foundation. (2013, January 4). Examining Pakistan Army's new doctrine. <https://www.orfonline.org/research/examining-pakistan-armys-new-doctrine/>
- Freedman, F. (2003). *The evolution of nuclear strategy* (3rd ed.). Palgrave Macmillan.
- Gokhale, A. N. (2017). The Inside story of India's 2016 surgical Strikes. *The Diplomat*. <https://thediplomat.com/2017/09/the-inside-story-of-indias-2016-surgical-strikes/>

- Ganguly, S., & Kapur, P. (Eds.). (2009). *Nuclear proliferation in South Asia: crises behaviour and the bomb*. Routledge.
- Gupta, U. N. (2007). *International nuclear diplomacy and India*. Atlantic Publisher.
- Hoodbhoy, P., & Polyani, J. (2013). *Confronting the bomb*. Oxford University.
- Hooey, D. (2019). Pakistan's low yield in the field: diligent deterrence or de-escalation debacle. https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-95/jfq-95_34-45_Hooey.pdf
- Hoyt, T. D. (2001). Pakistani nuclear doctrine and the dangers of strategic myopia. *Asian Survey*, 41(6), 956-977. <https://doi.org/10.1525/as.2001.41.6.956>
- Hussain, R. (2005). Nuclear doctrines in South Asia. *South Asia Strategic Stability Unit, University of Bradford, Report, 4*. <http://www.sassi.org/wp-content/uploads/2012/05/RP-4-Dr-Rifaat-Hussain-Nuclear-Doctrines-in-South-Asia-Dec-2005.pdf>
- Jalil, G. Y. (2018). India's development of sea-based nuclear capabilities: implications for Pakistan. *Strategic Studies*, 38(1), 34-47. <https://www.jstor.org/stable/48539121>
- Jaspal, Z. N. (2011). Ballistic missile defence: implications for India-Pakistan strategic environment. *NDU Journal*, 25(2), 1-26.
- Jaspal, Z. N. (2009). Paradox of deterrence. *Strategic Studies*, 29(4), 23-36. <https://www.jstor.org/stable/48527700>
- Jesudasan, D. S. (2019). Army Chief Bipin Rawat hints at stronger action as Pakistan revives Balakot camp. *The Hindu*. <https://www.thehindu.com/news/national/terrorist-camp-at-balakot-reactivated-indias-response-may-be-beyond-surgical-strike-army-chief/article29487410.ece>
- Joshi, S. (2019). How Pakistan planned to hit India back for Balakot: the mission, the fighter, the tactics. *The Print*. <https://theprint.in/defence/how-pakistan-planned-to-hit-india-back-for-balakot-the-mission-the-fighters-the-tactics/291522/>.
- Joshua, D. W. (2016). Challenging minimum deterrence: articulating the contemporary relevance of nuclear weapons. *Air and Space Power Journal*, 30(1), 16-29. https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Volume-30_Issue-1/F-Wiitala.pdf
- Kampani, G. (1998). From existential to minimum deterrence: explaining India's decision to test. *The Nonproliferation Review*, 6(1), 12-24.
- Kapur, S. P. (2007). *Dangerous deterrence: nuclear weapon proliferation and conflicts in South Asia*. Stand Ford University.
- Khalid, I. (Ed.). (2013). *Pakistan's foreign policy*. Peace Publications.
- Khan, M. (2016). Understanding Pakistan's full spectrum deterrence. *Journal of Strategic Affairs*, 1(2), 109-153.
- Khattak, M. U. R. (2011). Indian Military's Cold Start Doctrine: capabilities, limitations and possible response from Pakistan. *SASSI Research Paper*, 32, 7-8.
- Kidwai, K., & Lavoy, P. (2015). A conversation with Gen. Khalid Kidwai. *Carnegie International Nuclear Policy Conference*.

- <https://carnegieendowment.org/2015/03/23/conversation-with-gen.-khalid-kidwai-pub-58885>
- Krepon, M. (2005). Stability-instability paradox, misperception and escalation control in South Asia. In R. Dossani, & H. S. Rowen (Eds.), *Prospect of peace in South Asia* (pp. 261-279). Stanford University.
- Ladwig III, W. C. (2007). A cold start for hot wars? the Indian Army's new limited war doctrine. *International Security*, 32(3), 158-190. <https://doi.org/10.1162/isec.2008.32.3.158>
- Latif, A. (2014). A comparative study of nuclear doctrines of India and Pakistan. *Journal of Global Peace and Conflict*, 2(1), 129-146.
- Lavoy, R. P. (2009). Pakistan's nuclear posture: Security and survivability. *Centre for Contemporary Conflict*. <https://calhoun.nps.edu/handle/10945/25434>
- Malik, Sajjad, Muhammad. (2019). India-Pakistan Relations: an analytical perspective of peace efforts. *Strategic Studies*, 39(1), 59-76.
- Menon, R. (2000). *A nuclear strategy for India*. Sage Publications.
- Merriam-Webster Dictionary. (n.d.). Definition of doctrine.
- Morgan, M. P. (2003). *Deterrence now*. Cambridge University.
- Mukhtar, A. (2013). *Threat perception: Pakistan's nuclear weapons*. Peace Publications.
- Narang, V. (2010). Posturing for Peace? Pakistan's nuclear postures and South Asian stability. *International Security*, 34(3), 38-78. <https://doi.org/10.1162/isec.2010.34.3.38>
- Panda, A. (2018, April 1). Pakistan conducts second test of Babur-3 nuclear-capable submarine-launched cruise missile. *The Diplomat*. <https://thediplomat.com/2018/04/pakistan-conducts-second-test-of-babur-3-nuclear-capable-submarine-launched-cruise-missile/>
- Peck, M. (2018). Could India's Missile defence trigger a nuclear war with Pakistan"? *The National Interest*.
- Reif, K. (2019). Missile defence system at a glance: *arms control association*. <https://www.armscontrol.org/factsheets/missiledefenseataglance>
- Rosenstein, A. M. (2010). Swords and ploughshares, reassigning nuclear South Asia. *Arms Control, Disarmament and International Security*, 18(1).
- Sagan, S. D. (2001). The perils of proliferation in South Asia. *Asian Survey*, 41(6), 1064-1086. <https://doi.org/10.1525/as.2001.41.6.1064>
- Sharma, A. (2009, April 15). Ballistic missile defence for India: necessity, imperatives and implications. *National Defence and Aerospace Power*. https://capsindia.org/files/documents/ISSUE-BRIEF_08 BALLISTIC-MISSILE-DEFENCE-FOR-INDIA_15-April-2009.pdf
- Siddique, F (2015). Full spectrum deterrence: Pakistan's strategic compulsion. *CISS Insight: Quarterly News & Views*. https://academia.edu/12237826/Full_Spectrum_Deterrence_Pakistans_Strategic_Compulsion

- Siddique, F., & Faisal, M. (2016). Pakistan's strategic nuclear policy and implications for deterrence stability. *CISS Insight Quarterly News and Views*. [https://www.academia.edu/31716448/Pakistans Strategic Nuclear Policy and Implications for Deterrence Stability Farzana Siddique and Muhammad Faisal](https://www.academia.edu/31716448/Pakistans_Strategic_Nuclear_Policy_and_Implications_for_Deterrence_Stability_Farzana_Siddique_and_Muhammad_Faisal)
- Sridharan, E. (Ed). (2007). *India-Pakistan nuclear relations: theories of deterrence and international relations*. Routledge.
- Tasleem, S. (2016, June 30). Pakistan's nuclear use doctrine. *Carnegie Endowment for International Peace*. <https://carnegieendowment.org/2016/06/30/pakistan-s-nuclear-use-doctrine-pub-63913>
- Tellis, A. J. (2019). A smoldering volcano: Pakistan and terrorism after Balakot. *Carnegie Endowment for International Peace*. <http://carnegieendowment.org/2019/3/12/smoldering-volcano-Pakistan-and-terrorism-after-balakot -pub-78593>
- The Economic Times. (2018, July 14). India's indigenous Nuclear Submarine Arihant to undergo missile firing tests. <https://economictimes.indiatimes.com/news/defence/indias-indigenous-nuclear-submarine-arihant-to-undergo-missile-firing-tests/articleshow/49311148.cms>
- Wiitala, J. D. (2016). Minimum deterrence: articulating the contemporary relevance of nuclear weapons. *Air and Space Power Journal*, 30(1), 16-29.
- Yamin, T. (2015). Tactical Nuclear Weapons (TNW): the Pakistani perspective. *IPRI Journal*, 16(2), 28-43. <https://www.ipripak.org/wp-content/uploads/2015/10/2-art-s-15.pdf>
- Zagare, F. C., & Kilgour, D. M. (2000). *Perfect deterrence* (Vol. 72). Cambridge University.
- Zhara, F. (n.d.). Pakistan's road to a minimum nuclear deterrence. *Arms Control Today*. <https://www.armscontrol.org/act/1999-07/features/pakistans-road-minimum-nuclear-deterrence>

Notes:

¹ Kargil war 1999 was a limited war/clash.

² Under Sundarji doctrine, there were seven holding crops stationed near Pakistani border, which were trained and equipped only for defensive purposes. For offensive actions there were three Strike crops, stationed inside central India. Thus, when India ordered its forces of offensive strikes in Pakistan on 18th December, 2001, Strike crops took almost three weeks to reach IB. And during this time period whole strategic scenario got changed and India loses all the rationales for attack.

³ IBGs will be a combination of mechanized arterially, infantry and armour units.

⁴ Boost phase is also known as launching phase. It is the initial phase of launching a missile in which the rocket speed-ups the missile and its warhead payloads through and out of the atmosphere. During this phase rocket is closest to its launch point.

⁵ It is the second phase in which warhead travel over atmosphere.

⁶ It is the last phase in which the missile and its payloads re-enter into atmosphere aimed towards its targeted position.