

THE EVOLVING DYNAMICS OF DETERRENCE STABILITY IN SOUTH ASIA

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Abstract

It is anticipated that the states possessing nuclear weapons rarely involve in conflicts but the South Asian nuclear environment explicates a diverse notion. Both India and Pakistan are traditional rivals since their inception and nuclear factor has shaped a highly volatile environment for sustaining strategic stability in the region. The two states may have been compelled to constrain their conflicts due to their emerging deterrence capabilities except a limited conflict during Kargil crisis in 1999. Pakistan's posture of Minimum Credible Deterrence (MCD) provided nuclear umbrella during crises and the existing nuclear calculus of the two states derives leverage for establishing regional strategic stability. But the disparity between India and Pakistan due to their growing nuclear force postures with missile developments and their contradicting nuclear strategies have made Pakistan's strategic stability critical for its foreseeable future.

Key Words: Nuclear Weapons, Strategic Stability, Minimum Deterrence, Nuclear Calculus of South Asia.

Introduction

The states seek to ensure their security and sovereignty by adopting multiple strategies i.e. military modernization, economic growth and developing alliances. Nuclear weapons play a dominant role in military modernization by maintaining the security and survival among the states. The states having nuclear weapons adopt multiple strategies to deter the aggressors. Pakistan and India are traditional rivals, since nuclear tests of May 1998; the centrality of nuclear weapons has changed the strategic approach between the two

states. It is assumed that the chances of nuclear escalation are unlikely among the states possessing the nuclear weapon due to the fear of Mutual Assured Destruction (MAD). But the strategic analysts are suspicious as they have predicted the vulnerabilities of nuclear exchange between India and Pakistan. According to Richard Nixon, 'there is no probability of nuclear exchange among the states possessing nuclear weapons while in South Asia; the chances of nuclear conflict exist between India and Pakistan'.¹ After analyzing the Pak-India strategic environment, Robert M. Gates showed grave repercussions to Seymour Hersh, 'if both the states come to a war, it will be a nuclear war'.²

The jingoistic political culture is fed, sustained and expressed itself in a more extreme form in the declared or undeclared political agenda of a number of religious groups and political parties in both the states. Religion is the most dominant factor in shaping the strategic culture in India and Pakistan. Edward A. Tiryakian elaborated religion as the people who share ethnicity and language but differ in religion may slaughter each other.³ According to Rashtriya Sevek Sangh (RSS), 'the dropping of nuclear bombs over Pakistan as a solution to the longstanding Pakistani hostility and belligerence against India'.⁴

The Indian elite assume that Pakistani elite has the intentions for further fragmentation of India to reduce its international status⁵. Both blame each other for starting the three wars fought between them. They also hold each other responsible for internal turbulence and terrorism in their countries.⁶ Reinforcing each other, the dominant strains in this culture create a fertile ground for starting or drifting towards a nuclear war. In a conflict situation when intense emotional frenzy seizes, both the elites become ready to use nuclear weapons which generate serious security repercussions not only for the two states but for the remaining states in the South Asian region. The nuclear weapons have attained a centre stage between India and Pakistan in 1986-87 during Brasstacks crisis⁷ and the two states were at the brink

of nuclear conflict during Kargil crisis in 1999⁸, in 2001-2002 military standoff⁹ and Mumbai terrorist attack in 2008¹⁰.

The two states were away from nuclear escalation due to their nuclear postures but it is critical to predict that both the states will avoid nuclear exchange in future. This paper examines the significance of nuclear weapons in the strategic stability of South Asia by seeking the answers of the following questions.

- What are the existing nuclear postures and delivery mechanisms of India and Pakistan?
- What are the latest developments in missile systems of India and Pakistan?
- How can the nuclear postures and missile developments of both the states distress to the regional strategic environment?
- How many probabilities of nuclear war exist in the South Asian region?
- What is the impact of India's Cold Start Doctrine (CSD) and Ballistic Missile Development (BMD) on the strategic stability of Pakistan?

Theoretical Explanation

Understanding the role of nuclear weapons for the peace and stability of the states, the concept of power is strikingly central to realism, as it is a prerequisite for any group in attaining objectives, no matter what is the nature of the objective and Carr stressed that power is a necessary factor of every political order.¹¹ Morgenthau stated that power is rooted in the nature of humankind.¹² Hostli maintains that power is the general capacity of a state to control the behaviour of others.¹³ During World War II, international politics was a struggle for power among the states.¹⁴ Power has become the focal point for the sovereignty of the states and realists iron law explains it as, 'the stronger do what they have the power to do and the weaker accept what they have to accept'.¹⁵ In the cases of Nazi Germany and Czechoslovakia in 1939, the Soviet Union and Hungary in 1956, Indonesia and East Timor in 1975, the weaker states had to submit to the will of the stronger.

Power provokes the significance of weapons and when conventional weapons are not sufficient, a country seeks nuclear weapons as in the case of Pakistan. Initially, Pakistan did not intend acquiring nuclear weapons, but India's first nuclear test of May 1974 diverted Pakistan's attention for obtaining nuclear weapons and its main objective was to create a balance of power for preventing any war in future.¹⁶ Kenneth Waltz described the main argument relating to India's nuclear aspirations as, 'for enhancing its international standing and prestige to provide leverage in international affairs'.¹⁷ For justifying Indian nuclear ambition, Raj Rammana quotes:¹⁸

There was never a discussion among us over whether we should or not make the bomb. How to do it was more important? For us it was a matter of prestige that would justify our ancient past. The question of deterrence came much later.

Pakistan's quest of nuclear weapons is attributed to rise from the desire to negate India's conventional superiority as Kenneth Waltz stated, 'states acquire nuclear weapons for containing fear of present or future conventional strength of adversary power'.¹⁹ Furthermore, India wants to get the status of regional hegemon in South Asia. George K Tanham of Rand Corporation elaborated Indian aspiration of regional hegemon during his visits to India with the impression that Indians considered the whole South Asian region as one political unit; a strategic entity and they intended to deny Pakistan's potential to challenge this claim.²⁰ Most of the Indian strategists assume that Pakistan is a main hurdle in the Indian way for becoming the regional power in South Asia.²¹ India's aspiration of regional dominance created serious security concerns for Pakistan. Security is expanded in several explanations as Buzan described it in terms of power,²² Morgenthau equated it with survival,²³ Trager and Sanunie have delineated it from a policy perspective as, 'it is that part of government policy having as its objective, the creation of national and international conditions favourable to the

protection or extension of vital values against existing and potential adversaries'.²⁴ According to John Garnet, 'security means freedom from insecurity'.²⁵ Walter Lippmann elaborated as, 'a state is secure when it is not in danger of having to sacrifice core values if it wishes to avoid war, and is able, if challenged to maintain itself by victory in such a war'.²⁶ Pakistan's security perceptions are 'Indo-Centric' because both the states are traditional rivals since their inception.

Pakistan assumes India as an aggressive state which is the prime threat to its security.²⁷ The security dilemma for Pakistan refers to the consequences due to which states maximize their arms strength for their protection under condition of international anarchy.²⁸ Kaufman defined the security dilemma as a situation in which both sides have a credible fear of ethnic extinction.²⁹ Robert Jervis argues, 'security dilemma exists when both sides may be willing to give up the chance of expansion if they can be made secure but a number of other factors, the fear that the relative power is dangerously increasing, technology, events outside their control and their subjective security requirements- put such a solution out of reach'.³⁰ For Kenneth Waltz, 'states have to survive with their security dilemma which is not due to their intentions but by their situations. A dilemma cannot be absolutely resolved but dealt to some extent'.³¹

For sustaining and containing security dilemma, Pakistan planned to initiate a nuclear programme and succeeded in developing nuclear weapon in mid 1980s.³² India continued enhancing its nuclear stockpiles during 1974-1998³³ that was a severe security threat for the stability of Pakistan. Mearsheimer defines stability as, 'the absence of war and major crisis',³⁴ According to Jaswant Singh, 'stability assumes a state of balance between the two adversaries even though there may not be parity between them',³⁵ Thus for sustaining its strategic stability, Pakistan conducted nuclear tests on May 28 and 30, 1998 in response to India's nuclear tests of May 11 and 13, 1998. After becoming de-facto nuclear powers, both the states are enhancing their nuclear stockpiles which endangered Pakistan's strategic stability that's why Pakistan

decided to follow Minimum Deterrence (MD). Which has been illustrated in the context of its strategic objectives.³⁶ Redney Jones termed it critical to find out the 'minimum' in the South Asian context, as he stated:³⁷

Does 'minimum' imply the sufficiency of small number of nuclear weapons? Nuclear weapons held in reserve? Low readiness or alert rates of nuclear force? Renunciation of nuclear war fighting? Mainly counter-value targeting? Alternatively, does the term minimum merely make virtue today's facts of life in the Subcontinent's limited resources, scarce weapons materials, unproved delivery systems, and still undeveloped technical military capabilities?

Minimum must be dynamic and credible and for overcoming the deficiencies of minimum deterrence to a feasible extent, some nuclear states renamed it as 'Minimum Credible Deterrence (MCD)'.³⁸ Thus, for assuring MCD and sustaining their upcoming survival, security, and strategic stability, both the states planned to intensify their nuclear postures.

Nuclear Calculus and Delivery Mechanisms of India and Pakistan

It is critical to estimate the nuclear calculus of the two states because the nuclear programs of both the states are clandestine in nature. The volume of nuclear stockpiles, the capabilities relating to delivery can be predicted by analyzing the capacity of the nuclear installations of both the states. In 2010, it was calculated that India had developed almost 100 nuclear warheads and its Dhurva reactor has the capacity to generate weapon-grade plutonium for 5 nuclear weapons annually.³⁹ Moreover, India is busy in constructing an additional breeder reactor for developing nearly 25 nuclear weapons per year.⁴⁰ Federation of American Scientists⁴¹ and Robert Wall⁴² claimed that India would make 90-110 nuclear weapons till 2013.

As for Pakistan's nuclear stockpiles are concerned, Rodeny W. Jones estimated about 110 nuclear weapons by 2010.⁴³ While, Robert Wall⁴⁴ and Federation of American Scientists⁴⁵ estimated up to 120 nuclear weapons till 2013. Dinshaw Mistry anticipated that both India and Pakistan would have the capacity to generate enough fissile material for 200 to 250 nuclear weapons.⁴⁶ The two states are not only striving for enhancing their nuclear stockpiles⁴⁷ but they are developing first generation nuclear capable delivery vehicles for maintaining their nuclear threshold.⁴⁸ Besides Pakistan, India is planning to counter China's deep strike capability and the *Sukhoi-30 MKI* aircraft has the potential with a normal range of 3200 km with 800 kg payload and can be extended about 7000 km by providing air-to-air refuelling.⁴⁹

In 2010, Pakistan has acquired China's JF-17 Thunder which comprises the highly advanced machinery and has the ability to carry 3000 kg load with a range of 3000 km.⁵⁰ A large number of these aircrafts of the two states are deployed close to their borders, in the suburbs of Lahore (Sargodha) and New Delhi (Ambala and Hindan).⁵¹ The capitals of both the states are within the range of these aircrafts. The largest industrial and economic centres of both the states, Karachi and Mumbai are also within the range of these aircrafts.

A numeric parity of nuclear weapons as compared to conventional military balance is non-essential and detrimental because an adversary having large collection of nuclear arsenals can be successfully deterred with small reliable nuclear weapons.⁵² It facilitates comparatively less industrially developed states to collect the resources for minimum deterrence ability in the absence of alternative options for assuring its strategic stability. According to Waltz:⁵³

Unlike conventional strategy, a deterrent (nuclear) strategy does not rely upon extent of territory, thus removing major cause of war, and deterrence effectiveness a dependent upon one's capabilities and the will to use these capabilities.

The growing nuclear stockpiles and the delivery mechanisms of both the states intensify their capabilities to deter each other but the mindsets of their political and religious groups compel them to use of nuclear weapons against each other despite pretending the consequences of nuclear exchange.

Developments in Missile Systems of India and Pakistan

The existing India's missile programme is based upon *Prithvi* and *Agni* series and *Agni* had been designed to expand India's nuclear capabilities especially for containing Pakistan and China, except *Agni* I which is designed for restraining Pakistan only. *Agni* I has been tested up to the range of 1200 km and *Agni* II to range between 1200 to 2000 km with a payload of 1000kg in each case.⁵⁴ A particular variant of *Agni* I is Pakistan specific with a range of 700 km.⁵⁵ *Agni* II+/IV was tested in 2010 having the range of 3000km with payload of 2000kg.⁵⁶ *Agni* III projected up to the range of 3500-5000 km with 2000-2500 kg payload containing three solid fuel stages, and was tested in 2011.⁵⁷ *Agni* V was tested in 2012 up to a range of 5000 km with a payload of 5000 kg.⁵⁸ Submarine launched *K.15* having the range of 700 km with 6000 kg payload was tested in 2008.⁵⁹ Parhar tactical ballistic missile with a range of 150 km was tested in 2011, while *Nirbhay* cruise missile was tested in 2013.⁶⁰ Multipurpose *Brahmos* cruise missile with a range of 700 km was tested in 2013.⁶¹ Additionally, India is developing a sea born missile *Sagarika* which would be dual in character (ballistic as well as air breathing).⁶²

Third, during mid and late 1990s, Pakistan assembled and developed the indigenous variants of *Hataf* III, *Hataf* IV and *Hataf* V. *Hataf* III or *Ghaznavi*, is derived from Chinese M.II missiles, with a range of 300 km with possibly a 500kg payload.⁶³ *Hataf* IV or *Shaheen*, was tested in April 1999 and was drawn from China's M-9. *Hataf* IV has the capacity to carry a payload of 1000 kg up to the range of 750 km.⁶⁴ Pakistan successfully tested surface-to-surface, liquid fuelled

intermediate-range missile (IRBM), *Hataf V* or *Ghauri* missile in April 1998 which expanded Pakistan's capability to target up to a range of 1500 km with a nuclear or conventional payload of 700 kg.⁶⁵ *Hataf V* or *Ghaur* is based on the North Korea's *No-dong* and *Taepo-Dong* missiles which were derived by Russian technology.⁶⁶

Fourth, during 2000 and early 2010, Pakistan tested new short and medium-range missiles. Some of the tests occurred in response to India's missile tests especially during 2001-2002 military standoff or due to the regional and domestic political events after 2002.⁶⁷ This phase comprises the series of *Hataf* missile from VI to IX. *Hataf VI* or *Shaheen-II* was tested in 2004 with a range of 2000 km and a payload of 500-700 kg.⁶⁸ After the successful tests of *Hataf VI*, Pakistan diverted its attention towards developing cruise missiles and *Hataf VII* or *Babur CM* ground-launched cruise missile was tested in 2005 with the range of 700 km with payload of 450 kg.⁶⁹ *Hataf VIII* or *Babur CM* cruise missile enhanced air-launch missile capacity of Pakistan Air Force.⁷⁰ The main argument of the two states for acquiring a series of 'nuclear capable strategic' and tactical conventional missile systems were to deter each other but any miscalculation due to their poor strategic cultures and technological backwardness might endanger the environment for unintended nuclear confrontation between them.

It is observed in the history that in the post nuclear paradigm whenever parity exists between India and Pakistan, the two states were away from conflicts except mere exchange of verbal threats. The missile postures of the two states indicate that they have the potential to target all the important military and civilian installations of each other and this power parity forced the two states maintain amity between them, but the growing military capabilities of the two states have shaped the vulnerabilities for their future.

India's CSD and Ballistic Missile Defense (BMD) Strategies and Pakistan's Response

The Indian army initiated Cold Start Doctrine (CSD) to ignite a conventional move against Pakistan which would have an extensive damage to the defense line of Pakistan before the intrusion of world community in resolving the issue.⁷¹ Pakistan condemned CSD and warned India for any misadventure and introduced *Nasar* (Hataf-IX) besides refining its conventional defense strategy.⁷² *Nasar* is capable to deliver a comparable response against India's massive retaliation. Lt Gen (R) Khalid Ahmad Kidwai elaborated that the prime objective of *Nasar* is to consolidate the deterrence capability of Pakistan at all levels of the threat perception.⁷³ India's 'Cold Start' doctrine created a diverse situation for the strategic stability of Pakistan. Pakistan's response for containing Cold Start aggravated the danger of nuclear escalation between the two states. Although the development of *Nasar* missiles provides the leverage to Pakistan against India especially for matching the India's conventional armed superiority, but the existing issues between the two states may drift towards a severe clash in future.

India intends to acquire BMD and Phalcon airborne warning and surveillance system for reducing and marginalizing the credibility of Pakistan's missile penetration.⁷⁴ Zafar Iqbal Cheema expressed some reservations about the credibility of BMD and argued that it has limited capability to intercept cruise and ultra-supersonic ballistic missiles but declared that it could undermine the deterrence capability.⁷⁵ It would be hardly viable for India's BMD in intercepting *Nasar* due to its speed and low apogee. Christopher Clary and Vipin Narang claim that India's BMD has not the potential to intercept *Nasar*.⁷⁷

The BMD and Phalcon system would further aggravate the asymmetry between India and Pakistan and the discrepancy of power between the rival states has always been disadvantageous for strategic stability.⁷⁶ Classical deterrence theory predicts that India's commencement of BMD may

perhaps compel Pakistan in pursuing towards operational nuclear weapons for sustaining strategic parity and stability. For maintaining its credible nuclear force posture, Pakistan would wage conflict and a distressing deterrence/management trade-off as Scott D. Sagon described it as vulnerability/invulnerability paradox.⁷⁷ The operationalization and deployment of nuclear weapons capability gives rise to a new conflict dynamic which creates a new strategic atmosphere having elements of discriminating instability.⁷⁸ Thus, the India's BMD would generate massive spiral aggressive nuclear arms-race in which the two states would be under strain due to less stability and limited security which will provide the argument for Pakistan to reconsider its MCD.

Conclusion

Currently, the two states have the potential to deter each other's nuclear aspirations but their upcoming military preparations generate grave concerns relating to enduring peace and stability in the South Asian region. Despite the existing global trends relating to the nuclear deterrence, the emerging South Asian strategic environment provides disagreements due to the existing disputes between India and Pakistan. The induction of nuclear weapons highlights the suspicions between Indo-Pak relations and despite maintaining stability and preventing all-out war, it might become the source of instability at the lower end of the conflict. The existing nuclear calculus and missile developments of the two states specify their capabilities to target all important civil and military installation of each other which cause nuclear arms race that may create disparity between them. Despite nuclear arms race, there are some other factors i.e. the mindsets of political and religious groups, lack of technological advancements, and poor culture of conflict management and miscalculations which may endorse the probabilities of nuclear war between the two states. India's instigations about CSD and BMD may lead Pakistan to follow enormously aggressive stance for the existence of its strategic stability. South Asia's strategic stability might be assured by adopting two ways; first, the mediating role of international

community has a considerable impact in resolving the issues between the two states. It is the prime responsibility of the world community especially the US to force the two states in determining their core issues on firm grounds. Second, lack of trust is the focal point of disagreements between the two states and by initiating Confidence Building Measures (CBMs), both the states can normalize their relations and resume negotiations for establishing the stability in the South Asian region in future.

Notes

¹ Richard Nixon, *Seize the Moment: America's Challenge in a One-Superpower World*(New York: Simson and Schuster, 1992), pp.21-22.

² Seymour M. Hersh, 'On the Nuclear Edge', *The New Yorker* (29 March 1993), downloaded from www.newyorker.com/magazine/1993/03/29/on-the-nuclear-rdge on February 24, 2015

³ Edward A. Tiryakian, 'Reflections on the Sociology of Civilizations', *Sociological Analysis*, Vol.35, No.1 (Summer 1974), p.125.

⁴ *The Panchajanya*, New Delhi (20 June, 1999).

⁵ Dr. Inayatullah, 'Nuclearisation of India and Pakistan: Security or Holocaust?', *The News* (December 17, 2000)

⁶ *Ibid.*

⁷ In December 1986, India launched a military exercise 'Brasstacks' and behind the exercise, India had a covert plan to provoke Pakistan into war. The scale of mobilization was too huge to precedent during peacetime comparing as some exercises conducted by North Atlantic Treaty Organization (NATO) in Europe. India mobilized nine divisions and around a thousand armored vehicles deployed along the border. See Iram Khalid, 'Brasstacks Crisis in 1986-87', *South Asian Studies* Vol. 27, No.1 (January-June 2012), pp.37-40. Indian troops carried live ammunition, engendering a perception in Pakistan that India was likely to attack Pakistan. See Zafar Iqbal Cheema, *Indian Nuclear Deterrence* (Karachi: Oxford University Press, 2010).p.402.

⁸ Kargil was the first military conflict in nearly 30 years between any two nuclearised rivals in the world and the largest-scale conventional military engagement ever between any two nuclear states. 'The Usuri River conflict of the late 1960's and early 1970's between China and USSR never involved air strikes nor had the same escalation potential. The Kargil war held a serious potential for escalation of the nuclear level. Both the countries exchanged nuclear threats 13 times within 35 days during Kargil war. See Praful Bidwai. "Chasing the Mirage of Nuclear Stabilization, in

‘Security and Nuclear Stabilization in South Asia’ in Imtiaz Alam. (ed) *SPANAS South Asian Studies*, Vol.VII. Free Media Foundation Lahore, (2006), p.52. This is an indication that both the countries would not hesitate to threaten each other with nuclear arsenals in future.

⁹ A small group of militants attacked the Indian parliament on 13th December 2001, and India blamed Pakistan for supporting the militants and planned for pre-emptive military action against Pakistan and rose to extraordinary levels through most of 2002. Both the countries mobilized their forces on their borders, and became red alert for war for ten months. Involving a million troops, this was said to be one of the world’s greatest military mobilization since World War II. During the hair-raising stand-off, India and Pakistan came close to the brink of actual armed conflict at least twice in January, and then again in May-June 2002. India threatened a ‘limited’ conventional strike at alleged terrorist training camps across the LOC. Pakistan openly warned India that any conventional attack by India, however limited, would precipitate an all-out confrontation, with a nuclear escalation potential. See Kamal Matinuddin, ‘India-Pakistan Standoff,’ *Regional Studies*. Quarterly Journal of the Institute of Regional Studies, Islamabad, Vol. XXI, NO.3, (Summer 2003), p. 23.

¹⁰ Both the states have been dominated a new phase in a troublesome relationship due to a Mumbai terrorist incidence in 2008. The Indian city of Mumbai faced a series of terrorist attacks on November 26, 2008. The well-armed groups targeted two luxury hotels, a restaurant, a railway station and a hospital and killed 95 persons and took hundreds of hostages, including American and British guests resided in the hotels. The attacks highlighted tension between the two states. See Safdar Mahmood, *International Affairs* (Lahore: Jahangir printers and Publishers, 2012), p372. Also elaborated Mohammad Waqas Sajad, Mahwish Hafeez and Kiran Firdous ‘The Search For Peace-Pakistan and India’ downloaded from www.1299222963_5786578.pde at March 4, 2011. India issued threats to Pakistan for instigating surgical strikes on the training camps of accused culprits of Mumbai incidence and in response; Pakistan warned India that any India’s aggression will lead towards a full-fledge war. See Will Pakistan strike back if India attacks?’ down loaded from www.pakistanization.wordpress.com/tag/will-pakistan-strikeback-if-india-attacks/ on May 5, 2014.

¹¹ E.H Carr, *The Twenty Years Crisis* (London:Perennial, 1939), p.297. Also quoted Scott Burchill and Andrew Linklater, p.72

¹² Morgenthau offers the definition of power: man’s control over the minds and actions of other men, in John Baylis and Steve Smith (ed) ‘*The Globalization of World Politics, An Introduction to International Relations*’ (New York, Oxford University Press, 2001), p.150.

¹³ K.J. Hostli, ‘*International Politics: A Framework for Analysis*’ (Englewood Cliffs, N.J. Prentice Hall, 1967), p.193

- ¹⁴ Scott Burchill and Andrew Linklater, *Theories of International Relations* (New York: St. Martin Press, 1996), p.76.
- ¹⁵ John Baylis and Steve Smith, p.145
- ¹⁶ T.V.Paul, James. J.Writz and MichealFortman (edited), *Balance of Power: Theory and Practice in Twenty First Century* (California: Standford University Press, 2004), p.4
- ¹⁷ Kenneth Waltz, 'The Spread of Nuclear Weapons; More May be Better' *Adelphi Paper.No.171*. (London, International Institute of Strategic Studies. 1981), cited by GurmeetKanwal, '*Nuclear Defence; Shaping the Arsenal*'(New Delhi, Knowledge World, 2001) pp. 9-10. Due to its centuries old Hindu civilization, its 3,000 kilometers depth, its peninsula projecting hundreds of miles into the Indian Ocean, being population wise the second largest nation on earth and having been recognized as the largest democracy in the world, its leaders have aspirations and ambitions to become a major world power.See K.M. Desilva. "*Problems of Governance in Sri Lanka*" (New Delhi; Konark Publishers. 1993).p-392.
- ¹⁸ Raj Rammana was quoted by Muhammad Mushtaq and Muhammad Jawad Hashmi, 'Regional Hegemonic Aspirations of India; A Review of Indian Nuclear Program' *Pakistan Journal of Social Science*, Vol.32, No.1 (2012), p.253.
- ¹⁹ Kenneth Waltz, cited by GurmeetKanwal, pp. 9-10.
- ²⁰ George K Tenham, *Essays on Indian Strategic Thoughts* (Santa Monica: Rand Corporation, 1992), p.31.
- ²¹ Syed Ali Mujtaba, *Sounding on South Asia*(New Delhi: New Dawn Press, 2005), p.27
- ²² Barry Buzan, *People, States and Fear: The National Security Problems in International Relations* (Brighton: Wheatsheaf Book Ltd, 1983), p.4.
- ²³ Hans Morgenthau, *Politics Among Nations* (London: Knopf, 1973), p.7.
- ²⁴ Frank N. Trager and Frank L. Samonie, 'An Introduction to the Study of National Security' in F.N. Taregar and P.S. Kronenberg (eds), *National Security and American Society* (Kansas: Kansas University Press, 1973), p.36.
- ²⁵ John Garnet (ed) *Theories of Peace and Security* (London: Oxford University Press, 1980), p.31.
- ²⁶ WalterLippman (ed) *The Globalization of World Politics, An Introduction to International Relations* (New York: Oxford University Press, 2001), p.255.
- ²⁷ Zarar Iqbal Cheema, 'An Interpretive Analysis of India-Pakistan Strategic Culture and Its Impact on South Asian Peace and Security' *Regional Studies*, Vol.xxvi, No.3 (Summer 2008), p.17.

²⁸ India and Pakistan involved in conflicts in 1948, 1965 and 1971, and during the conflicts, the two states were away from the fear of nuclear escalation.

²⁹ Alasdair Blair and Steven Curtis, *International Politics* (Edinburgh: Edinburgh University Press, 2009), p.134.

³⁰ Kaufman. S. J. 'Spiraling to Ethnic War: Elites, Masses and Moscow in Moldova's Civil War,' *International Security*, (1996), pp.38-108.

³¹ Robert Jervish, 'Was the Cold war a Security Dilemma?' *Journal of Cold-war Studies*, Vol.3, No.1 (2001), p.41.

³² Kenneth Waltz, 'Theory of International Politics' (New York; MC Graw-Hill, 1979), p.187.

³³ Dr. A. Q. Khan disclosed Pakistan's capability during an interview with an Indian Journalist that, 'nobody can undo Pakistan or to take us for granted. We are here to say and let me be clear that we shall use the bomb if our existence is threatened, quoted Zafar Iqbal Cheema, *Indian Nuclear Deterrence*, p.402.

³⁴ Ibid, p.209.

³⁵ John J. Mearsheimer was quoted by F.C.Zagare and D.M.Kiglour, *Perfect Deterrence* (Cambridge: Cambridge University Press, 2000), p.4.

³⁶ Jaswant Singh was quoted by Feroz Hasan Khan, 'Challenges to Nuclear Stability in South Asia', *Non Proliferation Review*, Vol.10, No.1 (2003), p.62.

³⁷ Herbert F. Yark contended: the minimum deterrence is lemmatized in two ways; one in terms of its objectives and the remaining in terms of its means. In terms of objectives, it intends to deter the use of nuclear arsenals by someone else and not more than that. In term of means, minimum deterrence involves a limited numbers. Herbert F. Yark, *Arms and the Physicist* (New York: American Physical Society, 1994), p.373.

³⁸ R.W. Jones, 'Minimum Nuclear Deterrence Postures in South Asia: An Overview' downloaded from www.fas.org/irp/agency/dod/dtra/minimum-se.pdf on May 9, 2014

³⁹ Zafar Iqbal Cheema, 'Pakistan's Posture of Credible Minimum Deterrence: Current Challenges and Future Efficacy' *Margalla Papers, Special Edition* (2008), p.47.

⁴⁰ Global Fissile Material Report 2011: Nuclear Weapon and Fissile Material Stockpiles and Production' downloaded from www.fissilematerials.org/library/gfmr11.pdf on May 20, 2014.

⁴¹ Dinshaw Mistry, 'Missile Proliferation and Deterrence Stability in South Asia' in Michael Krepon and Julia Thompson (eds), *Deterrence Stability and Escalation Control in South Asia* (Washington D.C: Stimson, 2013), pp.127-128.

⁴² 'Federation of American Scientists: Status of World Nuclear Forces' downloaded from www.fas.org/programs/ssp/nukes/nuclear-weapons/nuke-status.html on May 13, 2014.

⁴³ Robert Wall, 'China Nuclear Stockpile Grows as India Matches Pakistan Rise' downloaded from www.bloomberg.com/news/2013-06-02/china-nuclear-weapon-stock-grows-as-india-matches-pakistan-rise.html on May 13, 2014.

⁴⁴ Rodney W. Jones, *Minimum Nuclear Deterrence in South Asia: An Overview*.

⁴⁵ Robert Wall, 'China Nuclear Stockpile Grows as India Matches Pakistan Rise'

⁴⁶ 'Federation of American Scientists: Status of World Nuclear Forces'

⁴⁷ Dinshaw Mistry, p.128

⁴⁸ India is constructing two more reprocessing plants at Tarapur and Kalpakam and their production is expected in 2014 which will contribute in boosting 100% increase in their production of Weapon-Grade Plutonium. Additionally, India is establishing nuclear enrichment plant at Rattahalli for fulfilling the requirements of nuclear submarines which are planned to launch in 2015. Expressed Raja Raman, 'Estimates of India's Fissile Material Stocks,' pp.81-83, downloaded from www.scienceandglobalsecurity.org/archieve/sgs16rajaraman.pdf on May 13, 2014. Similarly, Pakistan is developing its fourth Khushab nuclear reactor which will enable Pakistan in producing lighter and smart nuclear arsenals with higher yield. Stated Zafar Khan, 'Pakistan's Minimum Deterrence and its Policy Approach toward Fissile Materials: Security Concerns and the Region's Changed Strategic Environment', *The Korean Journal of Defense Analysis*, Vol.26, No.1 (March 2014), p.55. India has the capability of producing hydrogen bombs, stated Francois Heisbourg, 'The Prospects for Nuclear Stability Between India and Pakistan', *Survival*, Vol. 40, No.4 (Winter 1998-1999), p.79.

⁴⁹ Francois Heisbourg, 'The Prospects for Nuclear Stability between India and Pakistan' *Survival*, Vol.40, No.4 (1998-1999), p.78.

⁵⁰ Srinjoy Choudhary, 'Sukhoi Capable of Hitting Chinese Targets' *The Statesman* (28 September 2002). Suresh Dhanda also quoted, 'Nuclear Deterrence in South Asia: An Assessment of Second-Strike Capability,' *World Affairs*, Vol.13, No.4 (Winter 2009), p.98.

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- ⁵¹ CAC/PAC JF Thunder' downloaded from www.allmilitaryweapons.com/2011/11/cacpac-jf-17-thunder.html on May 15, 2014. JF Thunder is highly sophisticated, all weather, light weight, day/night multi role aircraft developed by a joint venture of Pakistan Aeronautical Complex Camra and Chengdu Aircraft Industry Corporation of China.
- ⁵² Francois Heisbourg, p.80.
- ⁵³ William T.R.Fox, 'International Control of Atomic Weapons' in Bernard Brodie (ed), *The Absolute Weapons* (New York: Harcourt, Brace, 1946), p.181.
- ⁵⁴ Kenneth Waltz, pp. 5-6.
- ⁵⁵ Suresh Dhanda 'Nuclear Deterrence in South Asia: An Assessment of Second-Strike Capability,' *WorldAffairs*, Vol.13, No.4 (Winter 2009), p.102.
- ⁵⁶ Ibid. This missile weighs 12 tones with solid fuel and is viable to mount by road mobile transport carrier or by railroad launch cars.
- ⁵⁷ Dinshaw Mistry, p.124.
- ⁵⁸ India Defence Consultants' downloaded from www.indiadefence.com/AGNIMISSILE.htm on May 18, 2014.
- ⁵⁹ Dinshaw Mistry, p.124.
- ⁶⁰ Ibid.
- ⁶¹ Ibid.
- ⁶² Ibid.
- ⁶³ Francois Heisbourg, p.81
- ⁶⁴ Samina Yasmeen, 'South Asia after the Nuclear Tests: Prospects for Arms Control', *Pacific Review*, Vol.11, No.3, (October 1999), p.241
- ⁶⁵ Ibid.
- ⁶⁶ Ibid, pp.241-241.
- ⁶⁷ Suresh Dhanda, p.103.
- ⁶⁸ Dinshaw Mistry, p.125
- ⁶⁹ Shaheen-II or Hataf-6' downloaded from www.fas.org/nuke/guide/pakistan/missile/shaheen2.htm on May 21, 2014.
- ⁷⁰ Muhammad Daheem, 'Pakistan's missile capability' downloaded from www.pakobserver.net/detailnews.asp?id=178539 on May 21, 2014.
- ⁷¹ Dinshaw Mistry, p.126

⁷² Rizwan Zeb, 'Deterrence Stability; N-Redlines and India-Pakistan Conventional Imbalance' *Regional Studies*, Vol. XXVII, No. 2 (Spring 2009), p.36. According to 'Cold Start' doctrine, the Indian Army will establish Integrated Battle Groups (IBGs) which will consist of eight small-sized divisions. During operation, extensive air support from IAF and Naval aviation will be provided to IBGs. The main objective of the doctrine is to get victory by rapid mobilization of forces before the intervention of external powers i.e. US and China on behalf of Pakistan. During aggression, maximum fire power will be utilized without any delay until the attainment of military objectives. In the coming conflict, the India's army will not intend to dismember Pakistan as it was taken during 1971 war and according to Walter Ladwig, 'the main aim of India's army is to make shallow territorial gains, 50-80 kilometer deep, that could be used in post-conflict negotiations to extract concessions from Pakistan. Explained Walter C. Ladwig III, 'A Cold Start for Hot Wars? The Indian Army's New Limited War Doctrine,' *International Security*, Vol. 32, No.3 (Winter 2007/2008), pp.6-9.

⁷³ Suresh Dhanda, p.103

⁷⁴ ISRP Press Release downloaded from www.isrp.gov.pk/front/main.asp?70=t-press-release=1721 on February 25, 2015

⁷⁵ Suresh Dhanda ,p.108. BMD is a defensive shield which identifies the incoming missiles of the aggressor by utilizing advanced surveillance capabilities and Phalcon system would empower India to trace the flights of Pakistani aircrafts including their flight positions within the radius of 400 km.

⁷⁶ Zafar Iqbal Cheema, 'Pakistan's Posture of Credible Minimum Deterrence: Current Challenges and Future Efficacy,' *Margalla Papers, Special Edition* (2008), p.48

⁷⁷ Christopher Clary and Vipin Narang, 'Doctrine, Capabilities, and Instability in South Asia' in Michael Krepon and Julia Thompson (eds), *Deterrence Stability and Escalation Control in South Asia* (Washington D.C: Stimson, 2014), p.100. Shortest flight time would make complicated for any missile defense system to interrupt especially in the case of Nasir missile.

⁷⁸ Zafar Nawaz Jaspal,, 'Ballistic Missile Defense: Implications for India-Pakistan Strategic Environment', *NDU Journal*, Vol No.xxv, (2011), p.2