Politeja
No. 2(59), 2019, pp. 39-53
https://doi.org/10.12797/Politeja.16.2019.59.03

Ashfaq AHMED
National Defense University Islamabad
danalyst@hotmail.com

Saima KAUSAR
University of Sargodha
cyma_kausar@hotmail.com

AN ILLUSION OF THE INDIAN BALLISTIC MISSILE DEFENSE SYSTEM

ABSTRACT In this paper, the Researcher has endeavored to test the hypothesis that the Indian ballistic missile defense system (BMDS) erodes the sense of mutual vulnerability. It seems that the BMDS provides a false sense of security to India. For this reason it is felt that the Cold Start Doctrine (CSD) can therefore be launched against Pakistan in an attempt to actualize a disarming strike. Consequentially, the BMDS disturbs the India-Pakistan crisis and deterrence stability. Indian policymakers should realize that firstly, the operationalization of the CSD crosses Pakistan's nuclear threshold and it requires Islamabad to unleash strategic and tactical nuclear weapons (TNWs); secondly, the Pak-India crisis and deterrence stability is functional due to the sense of mutual vulnerability; thirdly, the credibility of nuclear deterrence has not been tested and fourthly, the deterrence stability solidified the crisis and strategic stability. The BMDS deployment in South Asia will certainly result first in quantitative and qualitative nuclear proliferation; second, it weakens the NPT and; third, it may break the nuclear taboo based on non-use of nuclear weapons. India needs to understand that Pak-India can survive the long persisting threat of conventional and nuclear war because of the mutual vulnerability of counter value and counterforce targets.

Key words: Deterrence, South Asia, BMDS

INTRODUCTION

The Ballistic Missile Defense System (BMDS) is developed and deployed to offset emerging threats emanating from nuclear capable missiles.[1] The BMDS possessors acquire the ability to influence tense authoritative decision making procedures of the foreign states.[2] The BMD can help its possessors to actualize an offensive war fighting strategy. Indian military build-up and BMD tilts conventional and nuclear asymmetry in India's favor. Certainly, New Delhi can authorize pre-emptive strikes or it can impose limited war on Pakistan without fear of punishment. The Indian BMD system poses existential threats to Pakistan's security and exacerbates Islamabad's security dilemma. Consequentially Pakistan's defense kit, particularly nuclear weapons, is considered an inevitable determinative deterrent force against Indian conventional and nuclear forces. Islamabad based engineers have increased the range of Pakistani missiles to destroy, counterforce and counter value targets inside India to increase the cost of war for New Delhi in case deterrence fails in South Asia. Pakistan believes that nuclear weapons deter India but, nuclear weapons are most certainly the last resort. They should never be used.[3] It should also be noted that the higher accuracy rate of the Pakistani missile race has increased the Indian sense of vulnerability.[4] The vulnerability of the Indian urban centers and counterforce assets are to Pakistan's advantage and it strengthens Pakistan's nuclear deterrent posture. On the other hand India, in order to maintain superiority and shift balance of power (BOP) in its favor, is left with the only option to escape from this balance of terror.

This academic work is an attempt at analyzing the imperative political and strategic rationale behind India's decision to introduce the BMD system in the South Asian strategic milieu. The first section briefly analyzes Indian rationale for deploying the BMD. The second part highlights India's acquisition of advanced technology from Israel and the West while the third portion focuses on the positioning of the BMD. The fourth section analyzes the ramifications of Indian positioning of the BMD for South Asian strategic stability[5] while the fifth section reviews the Indian BMD implications for Pakistan's deterrent posture. It subsequently analyzes the revolution coerced by the BMD in Pakistani military affairs. The Sixth section attempts to highlight consequences of India and Pakistan's strategic competition for the nuclear non-proliferation treaty

1 A. Feickert, "Missile Survey: Ballistic and Cruise Missiles of Foreign Countries", *CRS Report for Congress*, 5 March 2004, p. 1, at <http://www.iwar.org.uk/news-archive/crs/31999.pdf>, 9 February 2014.

2 Ibid.

3 Dr. Zafar Iqbal Cheema, Personal Communication (22 November 2018).

4 Dr. Muhammad Shafiq Ur Rehman, Personal Communication (22 November 2018).

5 Private conversation: Brigadier General Zahir kazmi Director Arms Control & Disarmament Agency (ACDA), Strategic Plans Division (SPD) believes Pakistan has no problem with Indian deployment of BMDS. However, it disturbs South Asian strategic stability, 3 December 2017.

(NPT). The seventh segment discusses the impact of India and the BMD on South Asia's crisis stability. The final section concludes this segment.

THE RATIONALE FOR INTRODUCING THE BMD SYSTEM IN SOUTH ASIA

India is completing the BMD program regardless of its meaningful negative impact on South Asian security. The researcher feels that India is discarding Pakistan's arms control efforts to achieve nuclear disarmament and establish a nuclear weapon free zone (NWFZ) in South Asia. Furthermore, it is felt that India is replacing Credible Minimum Deterrence (CMD) posture with overkill capacity.

It is felt that India is positioning the BMD system as a rejection of Pakistan's offer to coexist peacefully by adhering to the nuclear restraint regime. Secondly, in pursuit of peace, Islamabad proposed to realistically exercise confidence building measures (CBMs) perforce to undercut the India-Pakistan security dilemma so as to preserve strategic stability and minimize the lethality and cost of war in case deterrence breakdown. However, India rejected Pakistan's proposal perhaps owing to three reasons: the First being that New Delhi wants to engage Pakistan in the costly arms race. Secondly, India is not prepared to concede equivalence to Pakistan and thirdly, the US is facilitating India in developing the BMD to counterweight China.

The accessible literature on topic suggests diverse inferences for Indian interest in the BMD. It is felt that India wants to complicate Chinese and Pakistani military strategies[6] and desires to counterbalance deterrent value of Pakistani missiles. It is also felt that India wants to augment the deterrent value of Indian second strike punitive forces. The researcher is of the opinion that India wants to embroil Pakistan in an economically costly missile race.[7] It also seems that India wants to acquire advanced military technology from the US so as to introduce a revolution in its military affairs.[8] Other drivers include India's political motives to deploy the BMD so that it may be able to acquire a seat on the United Nations Security Council (UNSC)[9]. India wants to be entitled to great power status globally and that is why it appears that the BMD is a step towards that end initiated by the political elite of the country. It should be remembered that similar attempts were made by the Indian political leadership in 1974 when nuclear devices were tested under the cover of Peaceful Nuclear Explosions (PNE) and it was in 1998 that Indian scientists made that dream a reality. Similarly, in 21st century, these

6 K. Banuri, "Missile Defenses in South Asia: The Next Challenge", *South Asian Survey*, vol. 11, no. 2 (2004), p. 195.

7 M. Sultan, "Emerging NMD Technologies and the South Asian Context", *Caspian Brief*, no. 26 (2002), at <http://www.cornellcaspian.com/publications/pdf/26_0208_NMD.pdf>, 18 December 2017.

8 R.M. Basrur, "Missile Defense: An Indian Perspective," in M. Krepon, Ch. Gagne (eds.), *Nuclear Risk Reduction in South Asia*, New Delhi 2003, pp. 3, 9.

9 A. Aneja, "Defense Ministry Debating Deal with the US Over NMD", *The Hindu*, 13 May 2001.

scientists were tasked with the creation of the BMD so as to exalt the Indian political stature to spectacular heights within the global community. The rationale behind the developing and testing of nuclear weapons in the 20th century was to prove that the Indian scientists, despite sanctions, have achieved a technological milestone. Now in the 21st century, it seems that India is engineering the BMD in order to demonstrate to the world that its scientific community is capable of developing a sophisticated defense shield. This is viewed by the researcher as an exertion towards the authentication of potential that will eventually lead to India being recognized as an emerging power on the global level.

The development of the BMD system is a consensus based decision with the stakeholders being Indian political bureaucracy, military top brass and the scientific community. It seems that the Indian political leaders aspire to stand next to the world leaders on international forums i.e. the UNSC. The stakes in the development of the BMD system for military leaders are that they want to give confidence to the Indian leaders and provide a sense of security to the Indian nation from foreign threats and the Indian scientists want to impress the domestic and international audience by achieving the set goal.

THE BMD SYSTEM ENABLED INDIA TO ACQUIRE NEXT GENERATION TECHNOLOGY

The development of BMD System required and now enabled India to get its hold on long range radars and the anti-missile platforms. India acquired Russian S-300 anti-missile platforms and developed long range (Arrow) radars with Israeli cooperation while guidance radar development was attained through French assistance.[10] The Indian BMD is based on Prithvi Air Defense (PAD) for countering high altitude, exo-atmospheric threats above 50 kilometers. Advance Air Defense (AAD) deters low altitude threats above 15 kilometers[11] as well as endo-atmospheric threats.[12] It should be noted that the AAD is based on the surface to air missile system (SAMS) Akash.[13] Indian The BMD System can destroy incoming enemy missiles, unmanned aerial vehicles, helicopters and fighter planes at high and low altitudes. The DRDO has already announced the future course of the PAD which will be replaced with Advance Software Systems (ADSS). The PAD, using Swordfish long range tracking radar, can track 200 gadgets appearing within

[10] F. O' Donnell, Y. Joshi, "India's Missile Defense: Is the Game Worth the Candle?", *The Diplomat*, 2 August 2013, at <http://thediplomat.com/2013/08/indias-missile-defense-is-the-game-worth-the-candle/>, 17 August 2014.

[11] "Indian Ballistic Missile Defense and Its Consequences", *Defense and Security of India*, at <http://defensesecurityindia.com/indian-ballistic-missile-defense-and-its-consequences/>, 30 July 2014.

[12] "The Challenges and Opportunities in Developing an Indian Ballistic Missile Defence System", *RUSI Defence Systems*, vol. 15, no. 3 (2013), p. 73, at <http://www.rusi.org/downloads/assets/RDS_2013_Patel.pdf>, 9 February 2014.

[13] F. O'Donnell, Y. Joshi, "India's Missile Defense..."

a range of 600 kilometers.[14] Despite the indicated quality, the PAD will be replaced as its first stage is liquid propellant which reduces efficacy of the PAD. From 2006 to November, 2012, the Indian DRDO carried out eight trial tests. In the aftermath of the successful November test the then DRDO Chief VK Saraswat announced that a missile defense system for New Delhi will be operationalized by the end of 2014. The AAD shield would be able to offset incoming missiles up to 2000 kilometers. India is working on the agenda targeted at enhancing this range up to 5000 kilometers.[15] India is planning to start development on the third layer of its missile defense system. This third layer is inspired by the effectiveness of Israel's Iron Dome System.[16] The Iron Dome System effectively functioned against "low-cost missiles" fired from Gaza, with a "range of up to 70 kilometers." India is working on developing a system, similar to Israel's Iron Dome, to be deployed against "artillery shells and low- flying- short- range rockets" which can possibly be fired by neighboring states.[17] India is developing a "laser based interception," efficient then US's PAC 3 system in terms of "interception range and operation altitude."[18]

India possesses the Israeli Elta Green Pine early warning system and Russian airborne early warning system. If India comes under attack from Pakistan, New Delhi will only have two to three minutes to launch counter-strike.[19] It is the researcher's opinion that less amount of time for a response creates confusion and generates fear of an Indian first strike against Pakistan. Consequentially, nuclear war may break out between India and Pakistan,[20] in the future.

The Indian solid fuel propelled, surface to air missile system (SAMS) Akash, has a range of 25 kilometers and India plans to export it to its allies.[21] India, in collaboration with France, wants to achieve a precision strike rate of Akash SAMS. It should be noted that the latter can be used in all types of conditions and weathers. The Indian Defense Acquisition Council (DAC) has ordered to acquire it for the Indian land forces[22] because Akash's flexible launching pads enable it to be launched from tanks

[14] N. Menon, "Defense System for India: Ballistic Missile", *Indian Defense Review*, vol. 27, no. 3 (2012), at <http://www.indiandefensereview.com/spotlights/ballistic-missile-defense-system-for-india/>, 17 August 2012.

[15] G. Lindstrom, *Development and Implications of Missile Defense*, Geneva Centre for Security Policy 2012, p. 15.

[16] "The Challenges and Opportunities..."

[17] Ibid.

[18] T. Chand, "Emerging Trends in Ballistic Missile Defence (BMD) System Development", *Centre for Joint Warfare Studies*, vol. 5, no. 1 (2013).

[19] M.A. Karim, "Is Nuclear Deterrence Workable at the Brink Time in South Asia and Beyond?", *The Korean Journal of Defense Analysis*, vol. 26, no. 1, (2014), p. 38.

[20] Dr. Muhammad Munir, Personal Communication (17 November 2018).

[21] "India Can Export Fighter Planes, Missiles: DRDO Chief", *The Indian Express*, 22 June 2014, at <http://indianexpress.com/article/india/india-others/india-can-export-fighter-planes-missiles-drdo-chief/>, 12 August 2014.

[22] "Akash Surface-to-Air Missile System, India", *Army Technology*, 24 May 2012, at <http://www.army-technology.com/projects/akashsurfacetoairmis/>, 12 August 2014.

against cruise missiles, helicopters, fighter planes and unmanned air vehicles (UAV). Its accuracy has been claimed to be 96% and a capability of tracking 64 objects simultaneously. It can neutralize twelve targets by launching twelve missiles simultaneously.[23] An advance weapon system enables India to improve its Command and Control (C2) system. The robust C2 system will endow India to overcome operational problems.

POSITIONING OF THE BMD SYSTEM

India started developing a particular BMD in 2006, with an objective to protect Indian counterforce and counter-value targets. India's sense of insecurity increased due to the advances made by Islamabad. It is a fact that Pakistani fighter jets cannot cover all of India accordingly and Islamabad relies on missiles or destroying prospective targets deep inside India. Indian security managers are determined to thwart foreign threats and perfect war schemes directed at meeting its two main rivals on equal footing. Therefore, it is felt that the Incorporation and positioning of BMD was a decisive step towards this direction of countering Pak China threats to Indian security.

India decided to deploy BMD in two major cities. New Delhi is a perfect site because the BMD system would protect the Indian National Command Authority (NCA).[24] However, recently the Indian villages of Rajasthan including Alwar and Pali,[25] that are situated at a distance of less than 800 kilometers from Islamabad were selected for BMD deployment.

The BMD System possesses based-on systems because powerful sensors detect missiles at the boost phase. Later, the integrated system in the BMD starts functioning to identify and track the enemy missile for the interceptor missile[26] to destroy it. The BMD can intercept the enemy missiles in three stages: i) the boost phase, ii) the cruise phase and iii) the re-entry (into earth's atmosphere) phase.[27]

BMD POSITIONING AND RAMIFICATIONS FOR SOUTH ASIAN STRATEGIC STABILITY

It seems that the BMD imbues a false sense of security in the minds of the Indian public, politicians, civil bureaucracy, the NCA and military directorate. New Delhi is implementing Cold War era superpower strategies to ensure the escalation of dominance

[23] Ibid.

[24] G. Lindstrom, *Development and Implications...*

[25] "India to Deploy Two Ballistic Missile Defense Systems Near Pakistan Border", *Sputnik*, 7 August 2017, at <https://sputniknews.com/asia/201708071056252187-india-missile-defense-systems/>, 12 November 2017.

[26] P.A. Patil, "Indo-Israel Collaboration for Integrated Anti-Missile System", *In Focus*, 24 February 2014, at <http://capsindia.org/files/documents/CAPS_Infocus_PP_1.pdf>, 12 August 2014.

[27] Ibid.

vis-à-vis Pakistan. Indian policymakers should realize the fact that superpowers survived the persisting threat of conventional and nuclear war because of the mutual vulnerability of the counter value and counterforce targets. The nuclear deterrence in South Asia is effectively functioning firstly because of the fear of mutual vulnerability and secondly due to the fact that credibility of deterrence based on nuclear weapons has not yet been tested. Another factor is the fear of mutual assured destruction (MAD) and deterrence stability resulted in solidifying strategic stability.

The BMD positioning by India exhibits Islamabad's bankruptcy to engage New Delhi in arms control apparatus. The researcher feels that India is discarding the classical notion of credible deterrence based on the concept of punishment and mutual vulnerability. The BMD undermines Pakistan's first strike policy and endows New Delhi with the ability to prevent Pakistani missiles from entering and destroying targets inside India. Efficient BMD buttress Indian conventional superiority and consequentially, India can launch surprise disarming attacks against Pakistan's counterforce targets.

India is transforming nuclear posture from relaxed to super ready status, by replacing liquid fuel propelled missiles with solid fuel missile inventories[28] as it aspires to keep its missile forces ready for a longer period. If required, India can launch missiles within minutes, particularly in crisis situations, so as to achieve the advantages that are related to the act of first strike. Inevitably, New Delhi will adopt an aggressive posture towards Islamabad i.e. operationalize the CSD against Pakistan. The future possibility to launch a CSD (limited conventional attack) would mean crossing Pakistan's demarcated nuclear redlines and threshold. It seems therefore that Indian defense planners are developing defense layer to provide the sense of security to its masses at the cost of regional instability. Further, the Indian BMDS is also systematically linked with global peace and security due to the Chinese presence in the region and global arena. The possession of the Indian BMD has already accelerated the ongoing missile race between India and Pakistan. Indian policymakers should understand that the deployment of a BMD system will result in quantitative and qualitative vertical proliferation. Also, it will heighten Sino-Pak dependency on nuclear weapons. It is possible that this will proportionately weaken regional arms control measures, disarmament clause Article VI of the NPT. It is also possible that operationalization of CSD would result in lowering the nuclear threshold which would probably lead to deterrence failure. The non- use of nuclear weapons taboo may consequently crumble.

The researcher is of the opinion that this transformation in nuclear posture and BMD deployment will create a false sense of security. It is felt that Indian military will start believing that Pakistani cities have been held hostage by the Indian nuclear and conventional missile forces. The researcher feels that India will start believing that the BOP is shifting in India's favor and as a result, strategic stability will be hampered. The BMD and super ready status require India to delegate the authority to launch missiles to junior ranking military officers which may culminate in a deliberate or inadvertent

[28] Khalil, 3 December, 2017.

use of nuclear weapons. Pakistan maintains de-mated nuclear forces but the BMD and super ready status is escalating Pakistan's threat perception and increasing security dilemma. It is possible that this will bring Pakistani NCA under pressure particularly in a crisis situation. It may force Pakistan to adopt a similar nuclear posture. The researcher feels that BMD adds destabilizing variables and forestalls regional stability[29] and Indian deployment of the BMDS will thus result in the violation of Bernard Brodie's philosophy "thus far the chief purpose of our military establishment has been to win wars. From now on, its chief purpose must be to avert them. It can have no other useful purpose."[30] The Indian violation of the rule established by Brodie may result in devising war wining offensive strategies i.e. the CSD. The researcher of the view that Indian offensive posture poses an existential threat to Pakistan and New Delhi is forcing Islamabad to concentrate on war fighting strategies rather than deterrence strategies.

INDIAN BMD IMPLICATIONS FOR PAKISTAN DETERRENT POSTURE

Pakistan visualizes that although India has not matured BMD yet, the Balance of power is gradually shifting in India's favor. Changes in Pakistan's external strategic environment include a revolution in Indian Military Affairs (RIMAs), Indian arms procurement and bellicose war fighting strategy. However, it is apparent that conventional military asymmetry has tilted in India's favor. BMD capacitates India to intercept and destroy the bulk of Pakistani missiles and, in this situation, India can execute disarming strikes against Pakistan's counterforce targets to exterminate a major chunk of Pakistan's defensive capabilities. After absorbing an Indian attack, Pakistan's residual nuclear capable missile forces may be insufficient to punish India. Furthermore, in an India-Pakistan war, an Indian BMD would enable India to block a majority of the missile attacks. In retaliation, a strong conventional Indian military would destroy the remaining Pakistani forces. After this realization, Pakistan may not retaliate and may demand compensation either by filing a plea to the International Court of Justice (ICJ) or approach major powers. Secondly, Pakistan may reorganize its remaining forces and retaliate against India with an objective to punish and inflict maximum damage to India. It is possible that a Pakistani attack would be based on the nuclear forces to deprive New Delhi of potential incentives of a disarming strike. Irrespective of the potential effectiveness of the Indian BMD, the lack of strategic depth and Indian massive retaliation doctrine, Pakistan's nuclear Command and Control (C2) authority should therefore publically adhere to the Maximum Damage Doctrine (MDD). However, the MDD would be conditional and it can only be launched in case of the Indian limited surgical strikes or accidental launch of missiles against Pakistani counterforce and counter value targets.

[29] Private Conversation: Zulfiqar Hussain, Director General Legal Affairs Establishment Division Islamabad, 18 December 2017.

[30] B. Brodie (ed.), *The Absolute Weapon*, New York 1946, p. 76.

This defensive retaliatory strategy can serve twofold purposes. Firstly it dissuades India from military adventurism against Pakistan. Secondly the MDD justifies a vertical nuclear proliferation and missile modernization program.

The Indian BMD and rejection of nuclear restraint regime proposal increases Pakistan's pre-existent security dilemma. It widens India-Pakistan prevailing trust deficit. It required Pakistani defense planners to conscientiously notice changes in the strategic environment and alter pre-existent strategy of the CMD. Changes in Pakistan's external strategic environment despite economic constraints require Islamabad to revise nuclear posture and upgrade its conventional military muscles. Pakistan's primary motive would be to thwart Indian bellicose designs and preserve the sanctity of its borders. The CMD posture therefore was considered redundant due to the novelty in Indian military posture. Pakistan's up-to-date nuclear posture is today based on the CMFD to preserve the sanctity of Pakistan's sovereignty. The comprehensive strategy thus enables Pakistan to repel Indian dictations and oppose Indian regional hegemony.

THE INDIAN BMD ACTUALIZE THE REVOLUTION IN PAKISTAN'S MILITARY AFFAIRS

Pakistan cannot sign the NPT as a non-nuclear weapon state (NNWS) or abandon fissile material production to strengthen the NPT at the cost of its sovereignty. Following the introduction of the BMD system by India, Islamabad's Credible Minimum deterrent (CMD) could not deter New Delhi. Only large number of missile forces would provide and ensure the sense of security to Pakistan. The decision to deploy BMDs ceased Islamabad's endeavors to control the nuclear and conventional arms race. If Pakistan does not increase the number of its missiles, the small missile force will either be shot down by the BMD or destroyed in the Indian attack on Pakistani missile installations. In the aftermath of such a scenario, Pakistan will be left at the mercy of the Indian forces.

Pakistan's missile forces and fighter jets with medium range could not target Indian counterforce assets if they were deployed near the enemy's border. Consequentially, these assets would remain vulnerable to enemy pre-emptive strikes therefore their range could be extended to be deployed close to the Afghan and Iranian border. Pakistan may work on the development of the electromagnetic pulse (EMP) to disrupt the C2 and communication system in the enemy's heartland. Pakistan will rely on cruise missiles for their delivery because radars cannot detect them. Strategic hawks in Pakistan hence believe that nuclear weapons possession and their extended range are considered as a countervailing power by India. Nuclear weapons deter pre-emptive strikes, neutralize Indian conventional military superiority, preserve strategic and crisis stability and discards Islamabad's dependence on allies. Islamabad deliberately relies on nuclear first use policy. It believes nuclear deterrence can only function if Indian counterforce and counter value assets would remain vulnerable to Pakistani missiles. Islamabad considers nuclear weapons as weapon of last resort and peace.

Pakistan introduced qualitative change in its missile inventory to overwhelm the Indian BMD by replacing one missile with "Multiple Independently Targetable Re-entry Vehicles (MIRVs). Islamabad is producing Manoeuvrable Re-entry Vehicles (MARVs) Chaffs, decoys, trajectories and cruise missiles,"[31] essentially to dodge the Indian BMD. The development of MARVs Chaffs and decoys is an expensive task however once it is achieved India would again feel vulnerable. The Shaheen-II solid fuel missile is capable of delivering 700 kilograms up to 1136 kilometers and 1000 kilograms can hit target within the range of 851 kilometers. The extension in the missile range enabled Pakistan to target Indian cities of Raipur and Hyderabad.[32] In 2008, Shaheen-II, range was extended up to 2000 kilometers.[33] Indian cities including: Bangalore, Trivandrum, Chennai, Bhubaneshwar, Kolkata, Gangtok and Shiong[34] can be held hostage during a crisis or in the event of actual war. Shaheen-II would become the main striking force against India. Shaheen- II can be fired from road- mobile launchers making it difficult for the enemy to locate and destroy it. Pakistan is developing nuclear capable tactical cruise missiles, ballistic missiles and anti-missile interceptor or the BMD System known as the FM-90 (surface to air) Missile System.[35] It can operate in all types of weather to shoot down unmanned aerial vehicles, cruise missiles and neutralize electronic control measures (ECM). The induction of FM-90 Missile System confirms that Pakistan is working on the idea of deterrence by denial.

Islamabad's countermoves are the outcomes of a security dilemma and an Indian upper hand in conventional and nuclear realms. The India-Pakistan arms race hampers efforts to stop "ballistic missile proliferation."[36]

India reacted by manufacturing the Pragati missile[37] tactical (nuclear) weapons (TNWs). India may realize the intrinsic dangers of the escalation ladder. Nevertheless, in arms races and in the escalation situation, adversaries continue to climb the tense escalation ladder. Yet, India-Pakistan cannot adhere to a classic action-reaction escalation situation due to accidental or deliberate use of nuclear weapons. Missiles competition increased defense spending i.e. on February 1, 2017 India's finance ministry allocated US $ 53.3 billion to the Indian Ministry of Defense.[38] India was listed

[31] D. Ghoshal, "India Conducts Successful Missile Interceptor Test", *The Diplomat*, 8 May 2014, at <http://thediplomat.com/2014/05/india-conducts-successful-missile-interceptor-test/>, 28 July 2014.

[32] S. Chandrashekar, A. Kumar, R. Nagappa, *An Assessment of Pakistan's Ballistic Missile Programme. Technical and Strategic Capability*, Bangalore 2006, p. 29.

[33] "Pakistan Launches Longest-Range Nuclear-Capable Missile During Exercise", *Associated Press*, 21 April 2008, at <https://www.jpost.com/International/Pakistan-launches-longest-range-nuclear-capable-missile>, 26 July 2015.

[34] S. Chandrashekar, A. Kumar, R. Nagappa, *An Assessment of Pakistan's*..., p. 30.

[35] Inter Services Public Relations (ISPR), Release No. PR136/2015-ISPR, 11 May 2015, at <https://www.ispr.gov.pk/front/main.asp?o=t-press_release&id=2879>, 26 July 2015.

[36] D.A. Wilkening, *Ballistic-Missile Defense and Strategic Stability*, London 2004, p. 5.

[37] "India Develops New Tactical Missile Pragati," *Times of India*, 29 October 2013.

[38] L.K. Behera, "India's Defence Budget 2017-18: An Analysis", *IDSA Issue Briefs*, 3 February 2017, at <https://idsa.in/issuebrief/india-defence-budget-2017-18_lkbehera_030217>, 19 December 2018.

as fifth largest military spender by the Stockholm International Peace Research Institute.[39] Nuclear weapons provide an absolute security guarantee[40] to nuclear weapon states hence a nuclear deterrent is considered imperative for Pakistan's security. It is cost effective for the economically weak Islamabad because their maintenance is easy. Pakistan's defense budget is $ 7.6 billion. Indian military designs compel Islamabad to raise its military budget in pursuit to decrease Indian favored military asymmetry.

Apparently India wants to engage Pakistan in the arms race aimed to bankrupt Islamabad. India's desire has its roots in US President Ronald Regan's strategic defense initiative (SDI) program. The SDI led to the dismemberment of the Soviet Union. However, Indian war plans posing an existential threat to Pakistan's survival enabled it to develop MIRVs, SLBMs solid fuel propelled tactical intermediate and medium range ballistic and cruise missiles. The integration of short range missiles in the military doctrine depicts Pakistan as focusing on offensive-defense war winning strategies. Pakistan's missile force structure, enhanced features and changes in military doctrine leave little room for the Indian BMDS to respond to Islamabad's incoming conventional or nuclear missiles.

IMPLICATIONS FOR CRISIS STABILITY

Indian BMDs posed challenges and hampered South Asian crisis stability, based on mutual fear and the threat of retaliation by the opponent. The crisis stability functions because neither of the opponents is in possession of weapons system to shift the BOP in their favor. The crisis stability thus depends on arms race stability. If arms race stability, from the Indian perspective, is eroded with the help of the BMD, it would erode mutual threat perception and the crisis stability would be placed in India's favor. The Indian political and military elite believe that the BMD maintains a higher level of accuracy. The BOP is shifting in India's favor. India believes that the BMD endows it to enjoy strategic advantages vis-a-vis Pakistan. It is therefore feared that due to New Delhi's strategic depth, the sense of protection and future assured second strike capability, India's leadership may authorize surgical strikes, a limited or full scale conventional war against Pakistan.

Indian aggressive military posture poses an existential threat and compels Pakistan to restore crisis stability, nullify the sense of superiority and protection enjoyed by the Indian military. Pakistan fears that the Indian quest for the BMD has roots to ensure "escalation dominance." Sumit Ganguly asserts that India is gradually advancing on the path to prevail over Pakistan during all levels of crisis and conflict. India,

[39] R.H. Laskar, "India is Fifth Largest Military Spender with Outlay of $ 55.9 bn: SIPRI", *Hindustan Times*, 24 April 2017.

[40] A. Ahmed, "The Philosophy of Nuclear Proliferation/Non-Proliferation: Why States Build or Forgo Nuclear Weapons", *Trames*, vol. 21, no. 4 (2017), p. 376.

through the steady modernization of military technology, wants to achieve the ability to launch pre-emptive strikes and ensure self-defense against Islamabad.[41] The Indian military dominance vis-à-vis Pakistan bears political, military and socio-economic consequences for Islamabad. Military consequences include an existential threat, threat of pre-emptive strikes[42] against counter value and counterforce targets. The list also includes the possibility of India's blackmailing or to carry actual decapitating strikes against Pakistan's nuclear facilities and depots. Islamabad's countermeasures based on escalation rules[43] are focused on maintaining the regional BOP. Islamabad's negligence in maintaining parity with New Delhi would bring Pakistan under pressure during a crisis. Hence, Pakistan will have to hold negotiations on Indian terms and conditions during a crisis. Owing to these fears, Pakistan despite its scarce resources is solidifying its deterrent force with an aim to ensure if deterrence fails, it can inflict maximum damage to India.

The spiral of the South Asian arms race is a matter of political life and death for New Delhi based politicians and the military top brass based in Rawalpindi. The politicization of conflicting issues helps the ruling elite on both sides of the borders of India and Pakistan to enjoy the support of masses. Emotionally overcharged mass support helps the ruling elite to enjoy perks and privileges, extend their rule or suppress political opponents. It is in this background claimed here that different ruling elites in India-Pakistan were involved in military competition to gain parity, took the risk of sparking a crisis and experienced typical escalation situations, as Herman Kahn asserted, because of the "fear of overreaction"[44] of the society and enemy. Detrimental political ramifications of the opponent's victory did not allow both sides to abandon their efforts. Pakistan's anxiety of enemy's overreaction, in case enemy wins, has roots in the occupation of Kashmir by the Indian military in 1947, the dismemberment of East Pakistan by the Indian military in 1971, Indian army's occupation of the Siachin glacier, the crisis of Brass tacks, the 1990s crisis, the Kargil war and the 2001-2military stand-off. The indicated crises always remained unpredictable. It is possible that India may hold Pakistan responsible for terror incident inside India and decide to punish Pakistan. The BMD capacitates India to destroy Pakistani satellite and makes this eventuality possible. The retaliatory policy is based on Herman Kahn's "reprisal policy" which likewise best explains the scenario discussed in Rung 28 under the heading *exemplary attacks against property*.[45] Islamabad lacks expertise in satellite technology. It would require huge financial resources and efforts to launch or hire another satellite. In the case of hiring a satellite, the owner would transfer data based on his liking and disliking. If implemented, it would thus be an effective policy. India would achieve

41 S. Ganguly, "Diverging Nuclear Pathways in South Asia", *The Nonproliferation Review*, vol. 20, no. 2 (2013), pp. 385-386.

42 H. Kahn, *On Escalation. Metaphors and Scenarios*, New York 2010, p. 174.

43 Ibid., p. 4.

44 Ibid.

45 Ibid., p. 144.

twofold objectives by destroying Pakistan's satellite. First, India would remain below Pakistan's nuclear threshold. Conversely, it would inhibit Islamabad from launching the first strike against India. Secondly, India would whip Pakistan yet avoid the outbreak of nuclear war and international condemnation.

CONCLUSION

To conclude this section Indian aspiration to maintain conventional asymmetry vis-à-vis Pakistan, become a regional hegemon and attain major power status accelerated Indian vertical proliferation. The deployment of BMDs provides a fictitious sense of security to India (BMD cannot intercept and destroy all incoming missiles) yet it erodes a mutual sense of insecurity. In this background India can operationalize the offensive CSD. India's aggressive military posture poses an existential threat to Pakistan's sovereignty. Consequently, the introduction of the Indian BMD requires India to acquire advance military technology and introduce offensive war fighting doctrines directed towards Pakistan. Indian developments thus pose serious threats to crisis and deterrence stability. Furthermore, the BMD System is thus a matter of grave concern for Pakistan. The Indian BMD System revitalizes the domino effect theory i.e. it provides imputes to neighboring Pakistan to take countermeasures and consolidate a nuclear and conventional missile arms race.

BIBLIOGRAPHY

Ahmed A., "The Philosophy of Nuclear Proliferation/Non-Proliferation: Why States Build or Forgo Nuclear Weapons", *Trames*, vol. 21, no. 4 (2017), https://www.doi.org/10.3176/tr.2017.4.05.

"Akash Surface-to-Air Missile System, India", *Army Technology*, 24 May 2012, at <http://www.army-technology.com/projects/akashsurfacetoairmis/>, 12 August 2014.

Aneja A., "Defense Ministry Debating Deal with the US Over NMD", *The Hindu*, 13 May 2001.

Banuri K., "Missile Defenses in South Asia: The Next Challenge", *South Asian Survey*, vol. 11, no. 2 (2004), https://doi.org/10.1177/097152310401100203.

Basrur R.M., "Missile Defense: An Indian Perspective", in M. Krepon, Ch. Gagne (eds.), *Nuclear Risk Reduction in South Asia*, New Delhi 2003.

Behera L.K. "India's Defence Budget 2017-18: An Analysis", *IDSA Issue Briefs*, 3 February 2017, at <https://idsa.in/issuebrief/india-defence-budget-2017-18_lkbehera_030217>, 19 December 2018.

Brodie B. (ed.), *The Absolute Weapon*, New York 1946.

Chand T., "Emerging Trends in Ballistic Missile Defence (BMD) System Development", *Centre for Joint Warfare Studies*, vol. 5, no. 1 (2013).

"The Challenges and Opportunities in Developing an Indian Ballistic Missile Defence System",

RUSI Defence Systems, vol. 15, no. 3 (2013), p. 73, at <http://www.rusi.org/downloads/assets/RDS_2013_Patel.pdf>, 9 February 2014.

Chandrashekar S., Kumar A., Nagappa R., *An Assessment of Pakistan's Ballistic Missile Programme. Technical and Strategic Capability*, Bangalore 2006.

Feickert A., "Missile Survey: Ballistic and Cruise Missiles of Foreign Countries", *CRS Report for Congress*, 5 March 2004, at < http://www.iwar.org.uk/news-archive/crs/31999.pdf>, 9 February 2014.

Ganguly S., "Diverging Nuclear Pathways in South Asia", *The Nonproliferation Review*, vol. 20, no. 2 (2013), https://doi.org/10.1080/10736700.2013.799825.

Ghoshal D., "India Conducts Successful Missile Interceptor Test", *The Diplomat*, 8 May 2014, at <http://thediplomat.com/2014/05/india-conducts-successful-missile-interceptor-test>, 28 July 2014.

"India Can Export Fighter Planes, Missiles: DRDO Chief", *The Indian Express*, 22 June 2014, at <http://indianexpress.com/article/india/india-others/india-can-export-fighter-planes-missiles-drdo-chief/>, 12 August 2014.

"India to Deploy Two Ballistic Missile Defense Systems Near Pakistan Border", *Sputnik*, 7 August 2017, at <https://sputniknews.com/asia/201708071056252187-india-missile-defense-systems/>, 12 November 2017.

"India Develops New Tactical Missile Pragati," *Times of India*, 29 October 2013.

"Indian Ballistic Missile Defense and Its Consequences", *Defense and Security of India*, at <http://defensesecurityindia.com/indian-ballistic-missile-defense-and-its-consequences/>, 30 July 2014.

Inter Services Public Relations (ISPR), Release No. PR136/2015-ISPR, 11 May 2015, at <https://www.ispr.gov.pk/front/main.asp?o=t-press_release&id=2879>, 26 July 2015.

Kahn H., *On Escalation. Metaphors and Scenarios*, New York 2010.

Karim M.A., "Is Nuclear Deterrence Workable at the Brink Time in South Asia and Beyond?", *The Korean Journal of Defense Analysis*, vol. 26, no. 1 (2014).

Laskar R.H., "India is Fifth Largest Military Spender with Outlay of $ 55.9 bn: SIPRI", *Hindustan Times*, 24 April 2017.

Lindstrom G., *Development and Implications of Missile Defense*, Geneva Centre for Security Policy 2012.

Menon N., "Defense System for India: Ballistic Missile", *Indian Defense Review*, vol. 27, no. 3 (2012), at <http://www.indiandefensereview.com/spotlights/ballistic-missile-defense-system-for-india/>, 17 August 2012.

O'Donnell F., Joshi Y., "India's Missile Defense: Is the Game Worth the Candle?", *The Diplomat*, 2 August 2013, at <http://thediplomat.com/2013/08/indias-missile-defense-is-the-game-worth-the-candle/>, 17 August 2017.

"Pakistan Launches Longest-Range Nuclear-Capable Missile During Exercise", *Associated Press*, 22 April 2008, at <https://www.jpost.com/International/Pakistan-launches-longest-range-nuclear-capable-missile>, 26 July 2015.

Patil P.A., "Indo-Israel Collaboration for Integrated Anti-Missile System", *In Focus*, 24 February 2014, at <http://capsindia.org/files/documents/CAPS_Infocus_PP_1.pdf>, 12 August 2014.

Sultan M., "Emerging NMD Technologies and the South Asian Context", *Caspian Brief*, no. 26 (2002), at <http://www.cornellcaspian.com/publications/pdf/26_0208_NMD.pdf>, 18 December 2017.

Wilkening D.A., *Ballistic-Missile Defense and Strategic Stability*, London 2004.

Interviews

Cheema Zafar Iqbal, Dr. (President Strategic Vision Institute [SVI], Islamabad), in Discussion with the Author (22 November 2018).

Shafiq Ur Rehman Muhammad, Dr. (Visiting Faculty Member National Defense University Islamabad), in Discussion with the Author (22 November 2018).

Munir Muhammad, Dr. (Assistant Professor in the Dept of Strategic Studies National Defense University Islamabad), in Discussion with the Author (17 November 2018).

Zulfiqar Hussain (Director General Legal Affairs Establishment Division Islamabad), in Discussion with the Author (18 December 2017).

Ashfaq AHMED – holds a PhD in Strategic & Nuclear Studies from the National Defense University Islamabad, Pakistan. He has contributed to the field of strategic studies through his writings published in Pakistani and international journals. He is currently serving as an Assistant Professor in the Department of Politics and International Relations at the University of Sargodha, Pakistan.

Saima KAUSAR – holds a M.Sc degree in Defense and Strategic Studies from Quaid-i-Azam University Islamabad, Pakistan. She is a M.Phil Scholar in the Department of International Relations at Lahore Leads University in Lahore, Pakistan.