



RESEARCH PAPER

Indian Tactical-Short Range Missiles, Fragile Nuclear Doctrine and Doctrinal Crisis Triggers Crisis and Strategic Instability in South Asia

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ABSTRACT

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Fascist regime of India is pouring billions of dollars in military modernization and to procure modern weapons system. Continuous military modernization is endangering regional peace and stability. Paper carefully calibrates Indian missile developments with fraught doctrinal changes. Central objective of this paper is "crisis within Indian fragile nuclear doctrine motivates Indian leaders to pave the way for spiral of crisis besides authorize preemptive military strikes against Pakistan. Fragile nature of Indian nuclear doctrine is resulting in crisis instability and endangering strategic stability." Paper rejects the notion that guardians of Pakistan nuclear weapons will use nuclear weapons. It is clear that Indian politico-military leaders are complicating decision making process. It will inevitably confront decision making challenges during crisis and in the midst of war resulting in deterrence breakdown. It rejects the preexistent notion that Pakistan's nuclear weapons program is fastest growing. It rather prove with substantial data India fits into this category. This research paper also rejects the notion that Pakistan introduced TNWs in South Asia. It rather brings into limelight the correct notion that New Delhi is missile proliferator and introduced TNWs in South Asia

Introduction

A nuclear device that is smaller in explosive power as compared to conventional nuclear weapon it has a range of less than 500 Kilometers. It can be used in areas where friendly forces are in proximity is known as tactical nuclear weapon (TNW). It is referred to land based missile tipped with nuclear warheads. TNWswere first deployed by the United States (US) in Europe to deter Soviets

during the Cold War. US deployed TNWs in Europe despite inherited risks associated with it e.g. small size makes it prone to theft; deployment near enemy border makes them vulnerable to enemy attacks, launch codes are shared with junior field commanders in the midst of crisis so the risk of accidental or deliberate use increases. Low yield can encourage field commanders to use TNWs. Deployment of TNWs in European conflict zones by Washington therefore could have resulted in deterrence breakdown.

New Delhi in 1988, started developing Prithvi-I short range missile technically TNW. Yet, US and its Western allies criticized Pakistan for hampering South Asian strategic stability by introducing Nasar, short range tactical missile. It is followed by a section highlighting implications of Indian tactical and short range missiles provides impetus to crisis within Indian nuclear doctrine. It results in regional missiles arms race. However, regional arms race is not the purview of this paper. Paper focuses on Indian tactical and short range missile capabilities posing threats to Pakistan's security in new millennium. Further, it creates a false sense of security in the minds of Indian strategic planners. Paper carefully calibrates Indian missile developments with fraught doctrinal changes. Case is built to prove that fragility of Indian nuclear doctrine triggers spiral of crisis resulting in crisis and strategic instability in South Asian. Final segment concludes this paper. Central objective of this paper is "crisis within Indian fragile nuclear doctrine motivates Indian leaders to pave the way for spiral of crisis besides authorize preemptive military strikes against Pakistan in the midst of crisis. Fragile nature of Indian nuclear doctrine is resulting in crisis instability and endangering regional strategic stability."

Integrated Guided Missile Development Program

The Integrated Guided Missile Development Program (IGMDP) of India started developing Prithvi ballistic short range missile in 1983 (Prithvi, 2018). Liquid fuel propelled Prithvi-I with 150 Kilometers (KMs) range was first successfully test fired on February 25, 1988 (Prithvi, 2018). It could be fired from transporter erector launcher (TEL) or road-mobile launchers. Prithvi-I entered into service in 1994. Missile's range was gradually improved. Its other variants include Prithvi-II, 250 to 350 KMs short range liquid fuel propelled. It was successfully tested fired on January 27, 1996. Initially, it was entered into force by the Indian air force. In 2002, its land forces version was introduced for the Indian military (Prithvi-I/II/III, 2016). Prithvi-I deployed near the India-Pakistan border could have targeted important Pakistani cities including Islamabad. However, it inherited two flaws. First, short range required Indian military to deploy Prithvi-I near Pakistani border. Certainly, it could have come under Pakistan military attack. Second, transportation of liquid fuel propelled missile requires large convoy. A separate vehicle is required to carry the liquid fuel for missile. Inevitably the convoy can be detected by the enemy and destroyed. Liquid fuel required India to operationalize the missile prior to missile launch. Once the missile is loaded it is difficult to transport it. However, Prithvi-II,

air version proved to be more lethal as it could have targeted significant Pakistani counterforce and counter-value targets. India realized the inherited flaws of liquid fuel propelled missile inventories. In 2000, it started developing short range naval edition solid fuel propelled nuclear capable Prithvi-III. It was test fired on September 21, 2001. Its range can be increased up to 750 KMs by decreasing the payload (Dhari). Prithvi-III is also known as Dhanush missile.

India is constantly developing, procuring and modernizing its tactical, short range and Pakistan specific strategic forces. It wants to ensure Full Spectrum Escalation Dominance vis-à-vis Pakistan. Indian nuclear forces are integrated with conventional weapons. Indian military can use nuclear devices at different levels of war. India is moving in a new direction by discarding earlier Credible Minimum Deterrence (CMD) posture. New Delhi is developing and operationalizing overkill capabilities. The strategic environment is becoming complex. It is evident that nuclear exchange in near future is becoming inevitable.

Akash Surface to Air Missile

In July, 2000 India introduced Akash surface to air missile (SAM) with 30 KMs range. It was test fired on February 27, 2001 and March 2, 2001. Akash can be fired from tank (Mallikarjun, 2012) and mobile launcher (India Missile Update-2002, 2002). It can neutralize enemy drones, air to surface, cruise missiles, fighter jets and ballistic missiles from a distance of 25 to 30 KMs. In 2018, Indian armed forces carried out military exercise Surya Lanka wherein the performance of the Mach 2.5 supersonic missile was tested. India is planning to procure two regiments of Akash missiles for deployment in mountainous Ladakh region on Sino-Pakistan border. Indian military planners have also decided to move Akash missiles to forward bases in Punjab, Gujarat and Rajasthan. Indian Air Force (IAF) is planning to acquire seven regiments of the surface to air missile. (Post-Balakot Strikes, Indian Army to Move Air Defence Units Closer to Pakistan Border, 2019). This decision is made to intercept and shoot down Pakistani fighter jets due to the shooting down of MiG-21 Indian aircraft during Pulwama-Balakot Crisis. Conversely, the challenges for Pakistan air force (PAF) to enter into enemy airspace will increase. Prior to entering enemy airspace and destroying enemy targets Pakistan's fighter jets will have to confront twofold challenges. First, PAF jets will have to evade the enemy Missile Defence System to deliver conventional or nuclear warheads and secondly confront the enemy fighter jets. The strategy to deploy SAM is inspired from Vietnamese successful anti-aircraft warfare strategy. Vietnamese anti-aircraft guns downed 740 US fighter aircrafts, several F-111 fighter bombers, 15 B-52s and several hundreds of helicopters (Simha, 2016).

The worrying aspect of Akash Missile is it is nuclear capable and raises questions regarding missile's defensive nature. What is New Delhi's aim by arming the surface to air missile? Does India aspire to launch aerial nuclear warning shot by firing nuclearized Akash missiles? Indian deployments of air defence system on India-Pakistan border with nuclear weapons delivery capability is a dangerous

move. It complicates the scenarios of nuclear weapons use prescribed in the Indian nuclear doctrine. New Delhi in violation of nuclear deterrence theory is deliberately increasing ambiguity. Indian policymakers should realize that commingling of conventional and nuclear forces increases the odds for nuclear weapons use. Additional reasons include increasing Hindu fascist extremism in India. Indian nuclear weapons deployed near Pakistani border guarded by Hindu extremists in the army can encourage nuclear weapons use. Secondly, Indian Prime Minister (PM) is the Chairman of Indian National Command Authority (NCA). The NCA makes decision to launch nuclear weapons. It is pertinent to mention that the Indian PM Modi represents Rashtriya Swayamsevak Sangh (RSS), an extremist Hindu party and a fascist ideology. RSS believes in supremacy of Hindus. Modi's top agenda is to promote this dangerous belief in India. Today, the threat to South Asian strategic stability stems from Modi's adherence to fascist ideology and his ability to launch nuclear weapons. Modi publically acknowledged that his administration was planning "Qatal Ki Raat," night of murder. It was a reference to use of missiles against Pakistani counter value targets in the wake of Balakot Crisis. Indian PM cannot be considered as a rational decision maker. (India is procuring modern weapon system it is developing Agni-V and Agni-VI Inter Continental Ballistic Missiles (ICBMs). It is safe to assert that US mainland will become vulnerable to Indian ICBMs in future. India can plan night of mass murder against US.)

Certainly, provocative nature of Akash missiles increased deployment on India-Pakistan border is destabilizing South Asian strategic and crisis stability. Indian gigantic military budget enables it to invest in producing and modernizing conventional and strategic forces. New Delhi wants to ensure Full-Spectrum Escalation Dominance against Pakistan. Modern weapon technology in the hands of Indian military encourages Indian Politico-Military leadership to plan for and execute provocative September, 2016 surgical strike. False sense of security led to the planning of preemptive the Joint Doctrine of the Indian Armed Forces (JDIAFs). It is a dangerous doctrine encouraging preemptive surgical strike. The author presumes that the latest Balakot Surgical Strike was launched in the light of JDIAFs. In December, 2018 Indian army introduced the more dangerous and provocative the Land Warfare Doctrine (LWD). It calls for more dangerous preemptive military operations against Pakistan. The LWD calls for military preparedness to fight in Chemical, Biological, Radiological and Nuclear war zones.

Commingling Akash Missile with nuclear and conventional warheads is certainly, dangerous move. The delegation of authority to use nuclear weapons to junior ranking Indian officer and the rising Hindu fascism are dangerous developments. Slogan e.g. Qatal ki raat is provocative. It inherits the seed to influence, emotionally overcharge and encourage Indian junior ranking officers to use nuclear capable Akash Missiles at the tactical levels as a warning shot in Pakistani airspace. In either scenario it will result in irreversible nuclear strike. Nuclear capable SAM will create problems for the leaderships on both sides of the border. The belligerents will certainly climb the nuclear escalation ladder.

K-15 Submarine Launched Ballistic Missile (SLBM)

Indian Defence Research Development Organization (DRDO) started developing solid fuel propelled ambitious K-15, Sagarika, SLBM in 1990s. It was first test fired in January, 2013 from Bay of Bengal (McLaughlin, 2014). This breakthrough was significant for three reasons. First, finally the test conducted after two decades marked the completion of K-15 SLBM programme. Second, the missile with 750 KMs range is nuclear capable. It enabled India to complete nuclear triad vis-à-vis Pakistan. Third, solid fuel enables India to keep it fully assembled and in ready status for a longer period of time. DRDO carried out additional tests of the missile in November, 2015 and later on August 11 and 12, 2018. Arihant can carry twelve nuclear capable K-15 missiles (Gady F. S., 2018).

New Delhi's official nuclear doctrine calls for maintaining No First Use (NFU) policy. Indian nuclear doctrine supports assertive control over nuclear weapons. It calls for keeping nuclear forces in disassembled form to ensure civilian control. Completion of nuclear triad requires India to keep K-15 in fully assembled form and mate it with delivery vehicle i.e. INS Arihant, nuclear powered submarine. NCA the custodian of the Indian nuclear weapons will have to transform Indian nuclear doctrine. NCA is required to delegate Indian navy officers with launch codes and the authority to unleash nuclear forces in future conflicts. It raises the likelihood of deliberate or accidental use of nuclear weapons. In crisis like situations if submarine is unable to contact Naval Strategic Forces Command (NSFC) prospects of nuclear weapons use will further increase. According to reports published in January, 2019 INS Arihant and Scorpene-Class (Kalvari Class) are not equipped with torpedoes. The only available option for the Indian navy is to equip them with older torpedoes (Gady, 2019). However, they are less effective. Thus leaving Indian subs vulnerable to enemy attacks and defenseless against enemy's submarines and surface warships. Consequentially, Indian nuclear capable submarine will be caught with use-it or lose-it phenomenon during crisis or in the midst of future conflict. This probability will intensify in the event conflict outbreaks out. It is feared that Indian navy will use them if they are ever caught in conflict by the Chinese naval forces. Beijing in comparison with Indian navy maintains larger fleet of seventy six submarines. In pursuit to understand this scenario it is pertinent to revisit the Pulwama-Balakot Crisis.

The short range of K-15 requires INS Arihant to be deployed near the enemy coastal areas. It can be detected so the benefits associated with elements of surprise will be lost. Consequentially, INS Arihant can be destroyed by the hostile forces. In recent Balakot Crisis India responded with horizontal escalation- to open a second front- by deploying Indian navy near Pakistan's coastal areas. Indian submarine was detected in case of war Indian navy's submarine commander would have been faced with traditional notion of use-it-or lose it. Fear that the submarine would be destroyed would have resulted in disquiet. The rapid developments, short time to response and incentives associated with pre-emptive strike unquestionably would

increase the odds to launch nuclear capable K-15 SLBM. Indian naval commander in any future conflict will prefer to use nuclear arsenals rather than losing them.

Probability that Indian authorities will resort to first use of nuclear weapon stems from the prerequisites of a credible deterrent. Credible deterrence is based on capability, credibility and resolve. India is deploying large scale nuclear weapons. It includes the deployment of nuclear capable K-15 INS Arihant, Akash SAMs and the development of mini-air force for nuclear missions. It fulfills the first prerequisite of deterrence "capability." Credibility is based on resolve or willingness to use nuclear arsenals during crisis or in war. The Indian No- First Use (NFU) Policy restricts Indian decision makers to express their resolve. NFU is causing frustration and unrest among Indian policymakers for instance the then Indian Defence Minister Manohar Parikar called for change in NFU Policy (Why Bind Ourselves to 'No First Use Policy,' Says Defence Minister Parrikar on India's Nuclear Doctrine, 2016). Shiv Shankor Menon, former National Security Advisor (NSA) also stressed the change. It is interpreted as emphasis on adherence to first use (Panda, 2017). Change from NFU to First Use is meant to use nuclear weapons for preemptive purposes rather than retaliatory strikes or for retribution. It will though address Indian policymakers and strategic planners concerns. However, public statements from both sides to use nuclear weapons first in the event of war or crisis situation will demonstrate willingness to use force. Belligerents will climb up the escalation ladder it will increase strategic temperature and naturally bring the NCAs on both sides of the borders under immense psychological pressure.

Public statements by the custodians of nuclear weapons to resort to nuclear weapons use will increase escalation ladder and bind both sides in 'Chicken Game.' The side decides to back-off first or deescalate the situation will lose reputation and credibility of its resolve. Opponent's approaches in future crisis will be based on chickens' past behavior and not take chicken seriously. Belligerent emerged with better reputation will remain stick to its behavior in future crisis to preserve national interest. Its behavior will be construed as its readiness to go to war. Conversely, it will be able to extract larger political gains. Strong resolve of the state will thwart enemy to impose unfavorable demands.

Indian military was over confident after Pakistan's denial of September, 2016 surgical strike. Consequentially, it reached to the conclusion that Indian military would launch preemptive attacks while Pakistan will deny it rather than responding in the same manner. General Bipin Rawat and Modi both were convinced Pakistan will deny surgical strike the situation will deescalate. This satisfaction encouraged Modi to coin the fragile term "new normal." February, 2019 cross-Line of Control strike by India was a message to convey occurrence of changes in its military response towards Pakistan. Surgical strike was launched to set threshold at conventional level rather than exercising restraint. It was attempt to legitimize use of conventional force at tactical levels against Pakistan for allegedly sponsoring terrorism against India. Pakistan's calibrated response at

conventional level surprised Indian decision makers. Modi therefore publicize Indian readiness to carryout missile attacks against Pakistani cities. It was shallow attempt to back Indian surgical strikes by nuclear deterrent dissuade Pakistani strategic circles from responding and set a new bench mark.

The change from punitive nuclear retaliation to preemptive nuclear attacks against Pakistani cities is cynical. It was a failed attempt to increase credibility of Indian nuclear deterrent vis-à-vis Pakistan and extract major political concessions during crisis. Nevertheless, it manifests the doctrinal crisis within India's fragile nuclear doctrine. Probably in future crisis Indian politico-military planners will authorize LWD in response to Pakistan's response to Indian surgical strikes. Belligerents will surely climb up the escalation ladder with nuclear strings attach to it.

Naag

Naag missile was test fired in November, 1990. It is developed to hit and destroy enemy mechanized infantry. Prospin missile can be launched from land with a range of four KMs. The air version Helina has a range of seven KMs. It can be fired from Dhruv advanced light helicopters (Nag Anti-Tank Guided Missile). Helina (Sant) has extended range of 15-20 KMs. It is the third generation Naag missile. It can be launched in all weathers and has day and night capabilities, better accuracy. It will pose unparalleled challenge to Pakistani tanks. Anti-tank man portable is the fourth version. It can be used against fortified bunkers on the border with India. Compact size of the missile can make it ideal weapon to be used against Pakistani positions along with the mountainous Line of Control (LOC) area.

The central idea behind these developments is to dominate escalations rungs and ensure Indian upper hand. Development and deployments of Naag missiles will tilt the balance at tactical levels in Indian favour. It ensures Indian capabilities to destroy TNWs batteries deployed on the border and Pakistan's advancing mechanized infantry from secure positions without being exposed to enemy retaliatory fire. By neutralizing Pakistan's first line of defence nuclear threshold will be lowered. However, this scenario has yet to be tested in future conflicts.

Agni-I

The first test of Agni-I was carried out in November, 1989. Indian government accelerated the development and test trials after Kargil war. In August, 2000 DRDO scientist claimed that Agni-I and Agni-II are ready for serial production. Agni-I has two different variants. First, nuclear capable version can carry 1000 Kilograms payload up to 1500 KMs. In January, 2002 DRDO test fired shorter range of 700 KMs (India Missile Update-2002, 2002). Development on Agni-I in the aftermath of the Kargil war was aimed to destroy Pakistani counterforce and counter value targets. It can be launched from rail and road mobile launchers. This feature enables its crew to change its position and make it difficult for the enemy to

track and neutralize it. It can easily destroy Pakistan's important cities including Lahore, Gujranwala, Sialkot, Bahawalpur, Rawalpindi and Islamabad. Agni-I is part of Credible Minimum Deterrent (CMD). Solid fuel propellant feature enables it to be deployed for a longer period. It enables India to maintain ready status or super-ready status. In prevailing scenario it is presumed India would prefer deployment of Agni-I. It is worrying as missile once launched accidentally cannot be called back. Border proximity and commingling of nuclear and strategic forces further complicates matters for decision makers.

Military developments provide New Delhi twofold advantages. First, it enables India to maintain military superiority vis-à-vis Pakistan. Secondly, constant investment research and development in missile programme enables India to become missile power in the region and at the global level. New Delhi's entry into Missile Technology Control Regime (MTCR) provides it further boost. Third, it tilts the strategic balance in New Delhi's favor. Consequentially, it puts pressure on Islamabad to follow the suit. It is a calibrated strategic step to trap Pakistan in sense of insecurity. Deliberately drag Pakistan in missile arms race and increase economic cost of defence budget.

Islamabad introduced qualitative changes in its missile inventories to counterbalance India. It is calibrated response as it avoids spending huge economic resources and extra financial burden on country's economy. Pakistani countermeasures create fear of punitive retaliation in Indian decision making circles. It deters India from initiating limited or full-scale conventional war, decapitating strikes or preemptive strikes. This strategy was successful until recently and failed to thwart Indian surgical strike. PAF ability to shoot down MiG-21 in recent crisis restored the status it will presumably deter India from such misadventures in future. Clearly Islamabad's response is reactive. New Delhi vertical proliferation coerces Pakistan to justifiably respond with countermeasures.

Prithvi-I

The shortest range of Prithvi-I is forty KMs and long range is recorded as 150 KMs. Despite short range it can hit Islamabad (Prithvi, 2002). It was having two issues first lack of precision strike rate. Second, problems emanates from liquid fuel which is highly toxic. It can pose grave challenges for the crew incase explodes accidentally or if it comes under enemy attack. Indian authorities therefore heavily invested in missile programmes to overcome these problems. Missile research, development and modernization programme is continued by the Indian authorities with foreign assistance particularly e.g. Israeli and Russian support. In June, 2013 the DRDO Chief Avinash Chander revealed that Prithvi-I will be replaced with more advanced Prahaar missiles (Prithvi missiles to be replaced by more-capable Prahar: DRDO, 2013). Prahaar is solid fuel propelled missile with improved precision strike rate.

Prithvi-II

On June 2, 2017 and later February 7, 2018 Indian Strategic Force Command (SFC) successfully test fired short range Prithvi-II missile from Chandipur, missile test site in Odisha(Pruthi, 2018). The liquid fuel propelled missile is capable of carrying 500 to 1000 kilograms of payloads. This missile can target and destroy all major cities of Pakistan. Sea variant of the Prithvi-II missile is known as Dhanush. Full scale range of the missile is 350 KMs. It is capable of carrying 500 Kilograms warhead. Liquid fuel propelled missile can be fired from ships to destroy surface missiles e.g. ships and land(Mallikarjun, 2010).

Prahaar

Pakistan Nasr missile was test fired on April 19, 2011. In response India on July 21, 2011 India test fired Prahaar, nuclear capable 150 KMs short range surface to surface solid fuel propelled missile. It can be launched from road-mobile launchers. In July, 2013 Indian officials announced to replace Prithvi-I older generation with Prahaar(India, 2019). On September 20, 2018 India again successfully test fired Prahaar, ballistic missile from Chandipur, Odisha. This solid fuel propellant TNW is able to hit targets within 200 KMs of range. It is developed by DRDO to carry conventional and nuclear warheads(Simha R. K., 2018). Indian strategic circles claim that Prahaar is developed to replace Prithvi-I. It is aimed to fill the gap at the tactical levels. Prahaar can be launched from Transporter-Electric Launcher Vehicle (TELV)(Simha R. K., 2018). TELV enables it to transport and change its locations. Compact size of the missile, quick reaction time 2-3 minutes and no preparation is required. Enhanced features endow the crew to easily maneuver the missiles. Higher maneuverability makes it difficult for the enemy to trace its location. It is all weather friendly weapon system. A single TELV can launch six missiles. Rapid salvo firing increases its capability to inflict more damages on the enemy at the battlefield or tactical levels. However, question arises what was Indian strategic objective behind the covert development of nuclear capable Prahaar?

Fragility of Indian nuclear doctrine, growing fascist ideology, the rise of Hindu extremism, development of Prahaar TNW, the announcement of LWD, preparation to fight in radiological, chemical, biological and nuclear environment and cynical surgical strike strategy manifests dangerous development. It lowers nuclear threshold. Debate regarding change of Indian nuclear posture from retaliatory strategy to adopt preemptive strategy increases the likelihood of TNWs at battlefield level by Indian field commanders. In case violence breaks out fear of enemy's TNWs will bring Indian field commanders under pressure and provide impetus to unauthorized use of nuclear capable Prahaar to secure inherent advantages of preemptive strikes. In another scenario if Indian NCA has to authorize TNWs preemptive use, fear of enemy's punitive retaliation will certainly bring it under pressure. Question rises will India launch TNWs at battlefield level or massive nuclear decapitating strikes? Indian nuclear doctrine calls for massive punitive retaliation to chemical, biological or nuclear weapons. If Pakistan responds to Indian TNWs with graduated response will India respond with calibrated

response? Or Indian NCA will authorize to open the gates of hellfire in form of massive retaliation against Pakistani counter value targets?

Conclusion

This academic research concludes that Fascist regime of India is pouring billions of dollars in military modernization and to procure modern weapons system. Indian authorities claims that it is procuring modern military technology/weapon system to prevent/deter Chinese threat. It is mere rhetoricasIndian missile ranges and deployments are Pakistan specific and poses threats to Pakistan's security. Gigantic military size, economic resources and foreign assistance tilted conventional balance in Indian favour. New Delhi today enjoys assured second strike capability vis-à-vis Pakistan. Indian military modernization led to disquiet over NFU. It is growing so debate to relinquish NFU is in the public circles. Commingling of nuclear and conventional forces at tactical and operational levels will increasepressure on decision makers at tactical, operational and national levels during crisis. Indian nuclear doctrine is fragile and in transitional phase as it is unable to answer abovementioned questions. Crisis within Indian nuclear doctrine will continue in fact decision makers are further complicating it by comingling the conventional and nuclear missiles at tactical and strategic rungs of the escalation ladder. Short decision-making time, enemy punitive retaliation, notion of massive retaliation and comingling of nuclear and conventional forces complicates matters for decision makers both at the tactical level and for the NCA during crisis.It is feared policymakers in New Delhi instead of overcoming will aggravate doctrinal crisis within nuclear doctrine. Crisis within Indian nuclear doctrinewill further increase, matters pertaining to decision making will complicate. Certainly it will confront decision making challenges during crisis and in the midst of war making crisis diffusion difficult rather resulting in nuclear weapons use.

This paper also brings into limelight three significant points. First, this paper rejects the already developed and accepted notion that the guardians of Pakistan's nuclear weapons programme will use nuclear weapons. It not only rejects the prevalent scenario and in fact is an antidote to the already established notion.It advocates that India is mating large number of nuclear warheads with the delivery vehicles onland, sea and aerial forces.India is replacing recessed nuclear posture with ready status by deploying large scale nuclear weapons. Consequentially, it increases the probability of nuclear weapons use by the custodian of Indiannuclear weapons.Large scale nuclear weapons deployments also raise questions about changes in the Indian nuclear doctrine and nuclear force posture.

The preexisting second incorrect notion is Pakistan nuclear weapons is the world's fastest nuclear weapon programme. Authors reject this notion. New Delhi aspires to increase the credibility of Indian nuclear deterrent by producing and deploying large scale nuclear warheads. It necessitates increased production of weapons grade fissile material. Consequentially, the more nuclear capable missiles are deployed the more weapon grade fissile material is required. Indian nuclear

authorities are producing additional stocks of weapons grade fissile material at fast pace to raise and equip mini-air force for nuclear missions, land based missile inventories and submarines with nuclear warheads. Indian government signed agreements to purchase uranium from Canada, Kazakhstan, Uzbekistan (Chaudhury, 2019) and Russia (15,000 Tonnes of Uranium Needed to Achieve Supply Security of Fuel for Nuclear Plants, 2018) to feed its nuclear reactors and produce weapons grade fissile material. Indian nuclear authorities are constantly feeding and expanding nuclear reactors expanding at fast pace. Primary attribute of Indian nuclear weapons program thus is it is a living organism. It leads us to reject the second notion that Pakistan nuclear weapons program is the fastest growing nuclear weapons programme in the world. In fact the correct notion is Indian nuclear weapons programme is the fastest growing nuclear weapons programme in the world. This paper rejects the third notion that Pakistan introduced TNWs in South Asia. It is incorrect. According to the definition of the TNWs stated above and the genesis of the Indian missile programme it is safe to assert that New Delhi introduced TNWs in 1988, in South Asia. Pakistan contrarily introduced TNWs Nasir Hatf-IX much later in April, 2011 to preserve regional peace and stability by deterring Indian military adventurism vis-à-vis Pakistan.

References

- Chaudhury, D. R. (2019, January 19). *India Inks Deal to get Uranium Supply from Uzbekistan*. Retrieved 19 January, 2019, from The Economic Times: <https://economictimes.indiatimes.com/news/defence/india-inks-deal-to-get-uranium-supply-from-uzbekistan/articleshow/67596635.cms>
- Dhari, R. S. (n.d.). *Prithvi: Family of Short Range Ballistic Missiles*. Retrieved January 31, 2019, from Military Today: <http://www.military-today.com/missiles/prithvi.htm>
- Gady, F. S. (2018, August 2). *India Test Fires Short-Range Ballistic Missiles From Submerged Sub*. Retrieved August 13, 2018, from The Diplomat: <https://thediplomat.com/2018/08/india-test-fires-short-range-ballistic-missiles-from-submerged-sub/>
- Gady, F.-S. (2019, January 31). *India's Submarine Fleet Still Lacks Modern Heavyweight Torpedoes*. Retrieved February 3, 2019, from The Diplomat: <https://thediplomat.com/2019/01/indias-submarine-fleet-still-lacks-modern-heavyweight-torpedoes/>
- India. (2019, January 31). Retrieved from NTI: <https://www.nti.org/learn/countries/india/delivery-systems/>
- India Missile Update-2002*. (2002, March 1). Retrieved September 18, 2018, from Wisconsin Project on Nuclear Arms Control: <https://www.wisconsinproject.org/india-missile-update-2002/>
- Mallikarjun, Y. (2010, March 27). Dhanush, Prithvi-II Test-fired Successfully. *The Hindu*.
- Mallikarjun, Y. (2012, June 2). Two Akash Missiles Destroy Targets. *The Hindu*. Retrieved from The Economic Times.
- McLaughlin, J. (2014, May 1). *India Missile Update- May 2014*. Retrieved September 18, 2018, from Wisconsin Project on Nuclear Arms Control: <https://www.wisconsinproject.org/india-missile-update-may-2014/>
- Nag Anti-Tank Guided Missile*. (n.d.). Retrieved December 31, 2018, from Army Technology: <https://www.army-technology.com/projects/nag-anti-tank-guided-missile/>
- Panda, A. (2017, March 28). *Nuclear South Asia and Coming to Terms with 'No First-Use' With Indian Characteristics*. Retrieved December 11, 2017, from The Diplomat: <https://thediplomat.com/2017/03/nuclear-south-asia-and-coming-to-terms-with-no-first-use-with-indian-characteristics/>

Post-Balakot Strikes, Indian Army to Move Air Defence Units Closer to Pakistan Border. (2019, May 14).

Prithvi. (2002, November 5). Retrieved June 1, 2019, from FAS: <https://fas.org/nuke/guide/india/missile/prithvi.htm>

Prithvi. (2018, December 3). Retrieved from <https://fas.org/nuke/guide/india/missile/prithvi.htm>

Prithvi missiles to be replaced by more-capable Prahar: DRDO. (2013, June 30). Retrieved March 18, 2019, from Business Line: <https://www.thehindubusinessline.com/news/prithvi-missiles-to-be-replaced-by-more-capable-prahar-drdo/article20628295.ece1>

Prithvi-I/II/III. (2016, August 11). Retrieved December 11, 2018, from Missile Threat CSIS Missile Defense Project: <https://missilethreat.csis.org/missile/prithvi/>

Pruthi, R. (2018, February 7). *India Successfully Test-Fires Nuclear Capable Ballistic Missile Prithvi-II,* Retrieved February 17, 2018, from Jagran Josh: <https://www.jagranjosh.com/current-affairs/india-successfully-testfires-nuclear-capable-ballistic-missile-prithviii-1517995656-1>

Simha, R. K. (2016, June 16). *India is Building A Missile Defence System- With Russian Missiles.* Retrieved September 18, 2018, from Indian Defence Review: <http://www.indiandefencereview.com/spotlights/india-is-building-a-missile-defence-system-with-russian-missiles/>

Simha, R. K. (2018, September 21). *Indian Army Test Launches Prahaar Short-Range Ballistic Missile.* Retrieved September 23, 2018, from Army Technology: <https://www.army-technology.com/news/india-test-launches-prahaar-missile/>

_____(2016, November 16) *Why Bind Ourselves to 'No First Use Policy,' Says Defence Minister Parrikar on India's Nuclear Doctrine.. The Times of India.*