

Conventional Asymmetries between India and Pakistan: A threat to the Deterrence Stability of South Asia

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Abstract

The overt nuclearization of south Asia changed the strategic dynamics of this region and deterred India and Pakistan from indulging in any major wars. However, the possibility of limited war under the nuclear overhang cannot be ruled out because of the unresolved issues including Kashmir, change in the Indian military's strategic thinking, massive military modernization and consistent war mongering by the Indian military and political leadership. The article argues that tactical or strategic nuclear weapons will not prevent India from any limited war, surgical strikes or any other below the nuclear threshold military operations. However, the study suggests that consolidation of 'Conventional Deterrence' by Pakistan will increase the cost for the Indian military's misadventure under their limited war doctrines, sub-conventional operations or surgical strikes. At present, Pakistan has maintained adequate balance in some conventional capabilities including the modern MBTs, third generation ATGMs, gunship helicopters, advance Artillery Guns, armed UAVs and second-strike capability. However, there are certain areas including Long Range Air Defense, Nuclear Submarines along with SLBMs, Fifth Generation Aircraft and Spy Satellites where Pakistan military needs an improvement to establish credible conventional deterrence backed by strategic weapons to dissuade the Indian military from any undesirable action against Pakistan under CSD, proactive Military Ops, sub-conventional warfare or surgical strikes.

Keywords: Conventional Deterrence, Strategic Stability, Sub-conventional Warfare Operations, Surgical Strikes, Security Dilemma

Introduction

The overt nuclearization brought negative peace in South Asia and prevented both states from any all-out war, but also opened the avenues for a limited conflict under the nuclear overhang. Pakistan being a smaller country with fragile economy cannot indulge in an all-out arms race, but it is compelled to maintain a certain amount of conventional parity to deter any limited quick incursions by the Indian military. This article is divided in three parts, the first part would investigate the Indian military's doctrinal transformation and military modernization aspects. Second portion of the article deals with Pakistan's conventional balancing and last part of the study would examine the possibility of limited war and future of conventional and nuclear deterrence in south Asia. The Indian military has undergone several doctrinal transformation phases. The aggressive Sunderji doctrine in the 1980s aimed at slicing Pakistan into two was deterred by Gen Zia Ul Haq's cricket diplomacy, Zarb-i-Momin

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military wargames and Dr. A.Q. Khan's nuclear signaling (Khan, 2017). The overt nuclearization in the post 1998 situation changed the strategic dynamics of the region. Both states are convinced that because of the nuclear weapons it is madness to engage in any major conventional war. Therefore, soon after 1999 the Indian army coined the idea of 'limited war under the nuclear overhang' which later converted into Cold Start Doctrine in 2004 (Ahmed, 2012). In 2012 and later in 2017, the Indian military introduced a concept of sub-conventional warfare or surgical strikes against alleged militant hideouts across the Line of Control- (LoC). The Indian government asserts that Pakistan is supporting Kashmir based insurgents- (freedom fighters). Therefore the rationale behind CSD or any other aggressive military doctrine is to deter or punish Pakistan security forces from allegedly supporting the militancy in India. However, Pakistan contends that it only supports the legitimate freedom struggle in Kashmir and has nothing to do with terrorist incidents in IHK or in India. The Indian military's doctrinal shift and rapid military modernization may create strategic disparity in south Asia, which may force Pakistan to take some conventional and non-conventional counter measures to deter any misadventure by the Indian military. However, the study argues that Pakistan must develop its conventional deterrence through an effective conventional military capability to make it costly for the Indian military any misadventure under the CSD, proactive military strategy or surgical strikes.

The Complexity of Conventional Deterrence in South Asia: An Appraisal

The conventional deterrence is meant to deter enemy from any misadventure under the nuclear overhang. According to John Mearsheimer, "Conventional deterrence is a function of the capability of denying an aggressor his battlefield objectives with conventional forces" (Mearsheimer, 1983. p15). In South Asian context, the concept of total war faded with the induction of nuclear weapons, but the possibility of limited war under the nuclear umbrella is a reality and it cannot be ignored. The Indian military has allocated huge sum to revamp its overall military machine to create conventional dominance vis-à-vis Pakistan to exploit the gap between the nuclear and conventional capabilities of Pakistan military to execute limited war, surgical strikes or sub-conventional warfare operations. However, if Pakistan maintains conventional deterrence, then it can make it costly for the Indian military to operationalize any limited war doctrine against Pakistan. Mearsheimer further elaborated the concept of conventional deterrence in these words, "There is a well-known distinction between deterrence based on punishment, which involves in threatening to destroy large portions of an opponent's civilian population and industry, and deterrence based on denial, which requires convincing an opponent that he will not attain his goals on the battlefield" (Mearsheimer, 1983. p14). However, in south Asian strategic environment, Pakistan is relying on deterrence by 'denial' which means Pakistan will revamp its conventional forces to deter any offensive maneuvers by the Indian armed forces.

Conventional Asymmetries between India and Pakistan: A threat to the Deterrence Stability of South Asia

This part of the study would evaluate the gaps and weaknesses in Pakistan military's overall warfighting capabilities and also identify areas where Pakistan has already maintained conventional balance with the Indian Military. There are certain areas where Pakistan is weak at the moment, which may include the long-range Air defense system, Spy satellites for surveillance and reconnaissance, nuclear submarines for an effective second-strike capability at sea, fifth generation aircraft, long range/endurance armed UAVs for recon and tactical operations. Although, Pakistan is filling the gaps rapidly indigenously and also with the help of China but still there are some areas where Pakistan military is facing shortcomings and needs an overhaul.

Indian Maritime Dominance: Counter Balancing by Pakistan

The Indian government has allocated billions of dollars on the Indian naval modernization to maintain maritime dominance in the Indian Ocean Regions- (IoRs) and beyond. The Indian Navy currently operate an aircraft carrier and planning to induct two more in the distant future (Dubey, 2018). However, the induction of Aircraft carrier will not create any immediate security threat for Pakistan. According to the former Air Chief Marshal (ret'd) Tahir Rafique Butt,

To threaten Pakistan, India has to keep it 600 miles away from Pakistan, because we may kill it in two days. It would be a national mourning for them, their flag would be on half march that Aircraft carrier has been destroyed. We have weapons that can hit 200 km away. So, I think aircraft carrier has not much relevance as far as Pakistan is concerned (Butt, 2017).

Another senior officer of Pakistan Navy, Vice Admiral (ret'd) Muhammad Haroon argues that, "It is just projection of power.....Fine, it would be a good target for our submarines" (Haroon, 2017). Nevertheless, the Induction of nuclear submarines equipped with long range Submarine Launched Ballistic Missiles- (SLBMs), P8I anti-submarine and maritime surveillance Aircraft, Stealth Frigates and other warships, designated Spy Satellites for the Indian Navy would have far reaching implications for Pakistan's maritime interests in the IORs and Arabian Sea.



According Shashank Joshi,

.....as India's naval strength grows, Pakistan will face greater challenges in the naval sphere. It will become easier for India to project power onto the Makran coast, and to blockade Pakistan in wartime. However, Pakistan's own A2/AD capabilities are also growing, and China's presence in Gawadar is likely to prove an important defensive shield, or perhaps a tripwire (Joshi, 2017).

Pakistan operate a smaller but a potent Naval force in the Arabian Sea, which has the ability to protect its coastal areas and maritime interests in the region. To protect its maritime interests and balance the Indian Navy's maritime superiority Pakistan has established a Naval Strategic Force Command- (NSFC), (Pakistan Cites Second-Strike Capability, 2012) and modified a conventional submarine to carry a nuclear tipped Babur-III cruise missile with a 700km range (Pakistan attains 'second strike capability, 2017).

This capability would provide Pakistan with (partial) second-strike capability at sea, because short range of the cruise missile and limited endurance of conventional submarine cannot be termed as assured second-strike capability but still it is considered as a significant development. Brigadier (ret'd) Dr Naeem Salik believe that the test of Babur-III would provide temporary solution, he said, "I would say this is temporary solution, this is not the definitive solution. The ultimate solution is long range missile preferably SLBM because the SLBM can carry greater payload as compared to the cruise missiles placed on nuclear powered submarines" (Salik, 2018).

Conventional Asymmetries between India and Pakistan: A threat to the Deterrence Stability of South Asia

Because a nuclear tipped missile on a conventional submarine would be prone to early detection and obliteration by the Indian military's Long Range-Anti Submarine Warfare Surveillance Aircraft P8-I. Although, the conventional submarines are quieter than nuclear subs, but the threat of detection would always remain high. The induction of P8-I maritime surveillance aircraft by the Indian Navy would be a grave threat for the conventional submarines of Pakistan. Pakistan military must employ other options to get assured second strike capability for deterrence stability. According to Michael Krepon, "Second strike can be assured by mobile, ground-based capabilities that are properly moved out of garrison in a crisis to foil preemptive strikes. Command and control over these forces is not simple, but it is much easier than going to sea" (Sadiq, 2014). Other option for Pakistan could be the development of deep underground tunnels to avoid decapitating first strike by the Indian military to ensure the second-strike capability of Pakistan.

It is reported that Pakistan has already attained this capability in 2009. According to a report, "Pakistan has reportedly addressed issues of survivability through pursuing a second strike capability, possibly building hard and deeply buried storage and launch facilities, deploying road-mobile missiles, deploying air defenses around strategic sites, and utilizing concealment measures" (Kerr, 2016). The Indian Navy's procurement of nuclear submarines would create security dilemma for Pakistan. The changing strategic dynamics of the region would compel Pakistan to take concrete steps to ensure its maritime security.

A conventional submarine with short range cruise missile Pakistan may not carry out deep strikes inside India but their coastal city and financial hub Mumbai will be under Pakistan's range which is good enough to deter the Indian Navy from any foul play at sea. The ultimate solution for Pakistan maritime security would be nuclear submarines along with long range nuclear missiles. Although nuclear submarines are noisier than a conventional submarine, but long endurance and greater outreach make it a weapon of choice for a country like Pakistan. Former commander of Pakistan's submarine fleet, Vice Admiral (ret'd) Muhammad Haroon believe Pakistan must induct nuclear submarine for guaranteed second strike capability. He was of the view that,

Babur-III would provide the second-strike capability to Pakistan and prevent India from any aggressive moves at sea. (But) we need to induct a nuclear submarine because in a submarine warfare 90% of the submarines are gone when they are carrying out snorkeling or they are on surface or they carry out a transmission. If you don't do any of these three, you are down and low at you station, quietly working and observing everything in a range of about 300 nautical miles radius, it makes lots of difference. You are depending on your detection and engagement systems (Haroon, 2017).

Pakistan has also taken certain steps to protect its maritime economic and strategic interests in the Arabian sea and beefed up security around its premium assets-(Gawadar Port). Former Chairman Joint Chiefs of Staff Committee, General (ret'd) Ehsan Ul Haq confirmed that, "We have developed some air bases in Gawadar, Pasni, Ormara, Masroor and Bolari, they are all facing the sea front and they are backed up by Turbat, Khushab and others" (Haq, 2018). Pakistan Navy's effective counter measures would deter India from any aggressive moves at sea. The Indian Aircraft Carriers are irrelevant in Pakistan context however nuclear subs would play a greater role in future. But the Indian nuclear subs are in the developmental & trial phase and it may take several years to master the art of operating nuclear submarines in open seas.

However, Pakistan and China with regular joint patrolling of IoRs and Arabian sea will mitigate this threat. It could be argued that Pakistan has so far maintained conventional balance at sea and it may not be possible for the Indian Navy to sneak in Pakistan's maritime domain without any detection. The sluggish Naval modernization would allow ample time to Pakistan for effective counter measures at sea, nullifying the Indian Navy's maritime superiority in the IoRs and Arabian Sea.

Indo-Pak Competition in the Air Defense Domain

The Indian military's aggressive war fighting doctrines require impeccable air defense to provide cover to its aircraft from Pakistani aircraft or missiles. The Indian military is planning to procure highly advanced air defense systems to neutralize Pakistan Air Force and maintain aerial dominance in the region. The Indian military's procurement of S-400 and Barak-8 long range air defense systems would help India to maintain air superiority and give confidence for any misadventure i.e. CSD or surgical strikes.

These capabilities would threaten Pakistan's aircraft, missiles, AWACS or UAVs. India would be able to detect and obliterate Pakistan's aerial assets at a safe distance of about 400 kms (India begins final negotiations for S-400, 2018). Former Senior officer of the Pakistan Navy, Vice Admiral (ret'd) Muhammad Haroon view the S-400 as grave threat for Pakistan which may trigger arms race in the region.

.....you cannot saturate an air with 100 missiles, these (S-400- Barak-8) things are there they create problems for us, it can create an impression that our missile may not hit India. We don't want them to have it. Probably it would push Pakistan to build more warheads (Haroon, 2017).

These fears in Pakistan's strategic community would create anxiety and give the Indian military a false sense of domination which may become a precursor for any misadventure against Pakistan in the shape of limited skirmish or surgical strikes across the LoC which may complicate security situation in the region. Senior Fellow at the Carnegie Endowment for International Peace, Washington DC, Ashley J Tellis said Pakistan will counter the S-400 or Barak-8 air defense systems, ".....with more nuclear weapons" (Tellis, 2017). Former Air Marshal (ret'd) Muhammad Ashfaq Arain believe that, "Ababeel (Multiple Independently Targetable Reentry Vehicle-

Conventional Asymmetries between India and Pakistan: A threat to the Deterrence Stability of South Asia

(MIRV) capable of delivering multiple nuclear warheads) is an answer to India's modern air defense systems" (Arain, 2018).

However, another perspective from India consider these systems as irrelevant in the current settings, Prof Bharath Karnard said,

.....these systems (S-400, Barak-8) could have an impact if 'total war' was on Delhi's mind, which it is not. Most India-Pakistan conflicts, I have long maintained, are limited, small time affairs involving counter-force actions that the late Major General DK Palit, former DGMO, correctly described as "communal riots with tanks" not serious wars fought to a decisive end (Karnad, 2017).

However, Pakistan will not ignore these developments and it is likely that it would take concrete measures to maintain strategic parity with India as far as long range air defense capabilities are concerned. Although the IAF is short of required 42 squadrons to maintain air superiority in South Asia vis-à-vis Pakistan but they are desperately working to fill the gaps and induct modern aircraft from the French, Russian or any other supplier to maintain air superiority. Once these capabilities are in place it would give the IAF confidence to execute limited war strategy in collaboration with the Indian Army or conduct surgical strikes across the LoC because at the moment Pakistan lags long range air defense systems to cater stand-off capabilities of the IAF. Former CJCS, General (ret'd) Ehsan Ul Haq evaluates Pakistan's Air Defense capabilities in these words,

It depends on what that aircraft is doing, if it is going to fly very high then we don't have the long-range air defense systems. Unless, it comes very close, because our capability is limited to Short Range Air Defense System- (SHORADS) and now we are getting into Low to Medium Range Air Defense system- (LOMADS) and the third stage would be High and Medium Altitude Air Defense System- (HIMAD) which like the S-400 and all these. They cater for standoff capabilities. We don't have those systems which can engage an aircraft 100km away (Haq, 2018).

However to cater the Indian military's stand-off capabilities Pakistan would have to induct long range air defense system from friendly states. In 2017, Pakistan procured advance LY-80 air defense system to shore up its air defense capabilities. This air defense system comes in the domain of LOMADS, it is considered as highly accurate and can take out targets at an altitude of 400 to 10,000 meters with greater speed and precision ("HQ16A LY-80 Ground-to-air defense, 2017). The LY-80 has the ability to interdict an aircraft or drone at an altitude of 40km and it can terminate incoming missiles at 12km range which makes it lethal weapon in Pakistan's inventory. Moreover, the LY-80 has a success rate of 85% against aircraft and 60% against cruise missiles. ("HQ16A LY-80 Ground-to-air defense, 2017). Former Commander of Pakistan Army Air Defense Corps, Lt General (ret'd) Zahid Latif Mirza, termed it highly accurate air defense system. He said that,

The LY-80 was inducted during my period, and I take pride in sharing it with you that this air defense system with 40km range is “deadly accurate”. We can take out the Indian SU-30 MKI, Rafale or any other aircraft in their inventory (Mirza, 2017).

The induction of such weapon systems would deter the Indian military from any aggressive moves against Pakistan. Now, the IAF would think twice to send an aircraft or UAV for any alleged surgical strikes across the LoC. But it may not deal with the IAF’s stand-off capabilities. However to cater the IAF’s standoff capabilities, Pakistan may acquire the Chinese HQ-16 air defense system with long range, greater precision and accuracy. This improved version has the ability to take out targets at an altitude of 70km which may accommodate the IAF’s stand-off capabilities and deter any aggressive moves in future (Fisher, 2016). The Indian military’s acquisition of fifth generation aircraft in future would force Pakistan to induct HIMADS to deter any misadventure by the IAF. Apart from Air Defense system, Pakistan air force has also started work on the fifth-generation aircraft with the help of China.

According to former Director General, Pakistan Air Force Strategic Command, Air Marshal (retd) Muhammad Ashfaq Arain, “PAF is continuing to improve its capability (work on the fifth-generation fighter has already started to offset the imbalance created by induction of modern fighters in IAF). Similarly, induction of certain weapons on PAF inventory will seriously challenge Indian intent of air superiority. PAF has and will retain the capability for attaining air superiority at intended places for required durations” (Arain, 2018).

Due to Pakistan’s fragile economy it may not procure expensive Russian or American air defense systems, but Pakistan military can induct Chinese HIMADS without any hassle because of their deep-rooted strategic and defense ties. It could be argued that in the air defense domain Pakistan has taken concrete steps and neutralized any strategic disparity in this realm. The HIMADS would deter the IAF from any superiority in the air domain and establish credible conventional deterrence.

Surveillance and Reconnaissance Capabilities: Spy Satellites

The modern warfare is all about information edge. A country with superior surveillance and reconnaissance capabilities would have obvious advantage against adversary during a war. In that context, the Indian military’s steps to improve its overall surveillance and reconnaissance capabilities through spy satellites, AWACS and long-range UAVs are source of concern for Pakistan. These capabilities would shore up the Indian military’s reconnaissance capabilities and give them information superiority in any conflict with Pakistan. Former Air Chief Marshal (retd) Tahir Rafique Butt reviewed Pakistan’s surveillance capacity in these words,

(Spy Satellites)- that is one area where they are ahead of us. That’s one area where we goofed up, we are generally depending on other agencies to give us the information about our own country and enemy country, we don’t have eyes in the air

Conventional Asymmetries between India and Pakistan: A threat to the Deterrence Stability of South Asia

from that point of view. We have reconnaissance capability well into India in some F-16 electronic pods and AWACS, they are quite efficient. They can carry out surveillance of about 30 to 40 miles inside India. But what overall satellite can do, we cannot do that. They will be able to find our dispositions. The entire world knows about the location of our bases, but they would have update on the movement and deployment of our troops in quick time, that would give them (an) edge (Butt, 2017).

These capabilities would help the Indian military to maintain dominance vis-à-vis Pakistan in the field of real time information. Pakistan's strategic installations, deployment pattern, movement of troops or weapons would be under grave threat of detection by the Indian spy satellites. The deterrence stability in south Asia is relatively stable in modern times because of the nuclear equation and conventional balance but in future if the conventional gap widens then India may resort to a limited clash or surgical strikes across the LoC or working boundary to exploit the conventional weaknesses of Pakistan military. Such a scenario would put great strain on Pakistan's nuclear deterrence. Pakistan will be forced to overwhelmingly rely on nuclear weapons to balance conventional disparity in future. However in modern times Pakistan is effectively balancing the Indian military's conventional procurements. The next part of the study would discuss Pakistan's counter measures to maintain conventional balance in some areas vis-à-vis India.

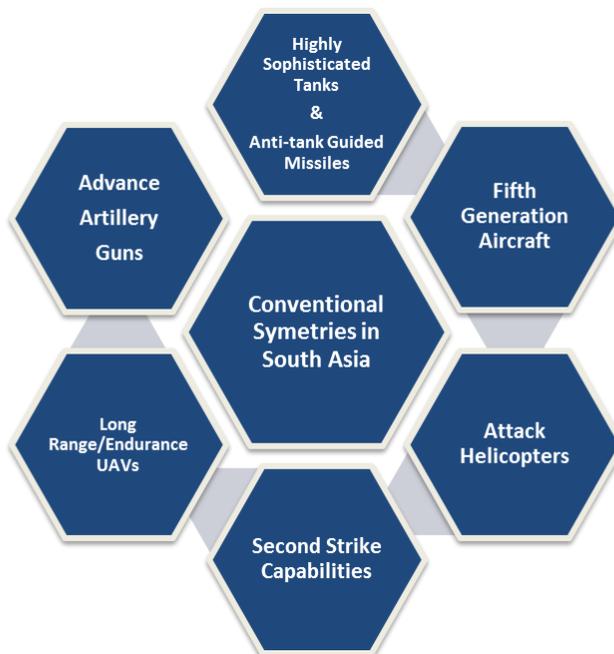
An Assessment of Conventional Equilibrium in South Asia

Pakistan military has maintained balance in some areas to contain the Indian military's aggressive behavior on the border. The conventional deterrence largely depends on the defensive measures, strategies, and weapons of the weaker party. John Mearsheimer emphasized that point in his work on conventional deterrence in these words. "Success in war depends largely on the weaponry available to the opposing sides. More important for our purposes, when offensive weaponry has the upper hand, deterrence is likely to fail, and when defensive weapons dominate, deterrence is likely to obtain" (Mearsheimer, 1983). In that context, Pakistan's conventional capabilities are almost matching the Indian military. In the foreseeable future Pakistan can maintain strategic parity vis-à-vis India without indulging in any intermittent arms race.

T-90S Tank vs Al- Khalid Tank

The T-90 is considered as the backbone and an important element for any quick and swift warfare strategy of the Indian Army under CSD or proactive military operations. The Indian army has started procurement of T-90 since 1999 and now it has procured almost 1,100 such tanks. The Indian Army has placed another order in 2016 to procure 464 T-90 Tanks to raise 10 more regiments along the Pakistan border to give an offensive punch to the forces deployed at the border (Soon, 464 new tanks for Army, 2018). The induction of advance T-90S tanks have compelled Pakistan to

upgrade, modify and induct more Al-Khalid and Al-Zarrar MBTs to maintain balance in the armor capabilities vis-à-vis India. According to 2015 estimates, Pakistan possess about 600 Al-Khalid MBTs. The number would definitely grow in future because of the Indian Army's acquisition of more T-90 MBTs and refurbishment & replacement of Soviet era vintage tanks. Al-Khalid is advance MBT equipped with 125 mm gun, modern anti-tank missiles and night vision capabilities (Osman, 2015).



Pakistan has carried out deal with a Ukrainian firm to upgrade engines of about 200 Al-Khalid MBTs (Pakistan to Upgrade Al Khalid Tank, 2016). This upgradation program would improve the speed, maneuverability and lethality of Al-Khalid MBT in desert and plain areas and give Pakistan Army confidence to counter any Indian offensive maneuvers in these areas.

Race for Anti-Tank Guided Missiles

The anti-Tank missiles play a crucial role in impeding the advance of enemy armour, mechanized forces, Armor Personnel Carriers etc. In the modern warfare most of the countries rely on anti-tank missiles to deter enemy's fast moving MBTs from shallow or deeper thrusts inside enemy territory. Currently, the Indian Army is facing serious shortage of anti-tank missiles. According to a report, the Indian Army is facing shortage of 68,000 ATGMs and 850 launchers of different categories. It is expected that indigenous production may start between 2021-2022.

Conventional Asymmetries between India and Pakistan: A threat to the Deterrence Stability of South Asia

To fill that gap the Indian Army is looking towards the Israelis or the Americans to fill that gap quickly without any technology transfer. The Indian Army is planning to arm its 382 infantry battalions and 44 mechanized infantry units with third- and fourth-generation ATGMs, but it may take several years to overcome operational gaps in this domain (Pandit, 2018). However, Pakistan has already inducted third generation ATGMs to deter any Indian armour advance in the plains of Punjab or deserts of Rajasthan. Pakistan can overcome the issue of the Indian ATGMs in future with the upgradation of its MBTs with advance features, night vision, greater maneuverability, thick armor and enhanced firepower.

Pakistan and China are already manufacturing advance HJ-8 ATGMs in collaboration. However, the Chinese military has also introduced the advanced version of HJ-12 ATGMs which has the ability to penetrate thick armor of most advanced MBT like the American M1 Abrams and the Russian T-90S. In addition, this ATGM can take out targets at a distance of about 2.5 miles and it is equipped with 'fire and forget' features which makes it a nightmare for moving Tanks or APCs. (Philipp, 2014). With the likely induction HJ-12 in future, Pakistan can easily deter the Indian Army from any coercive operations, limited or deep thrusts with their advance T-90S MBTs or other mechanized forces.

Competition in the Long-Range Artillery Guns

Artillery Guns play an important role in modern warfare. It provides cover fire to the advancing mechanized units, Tanks, APCs. Artillery impede the advancing enemy, destroys the hardened enemy positions and create shock and fear in the enemy camp with superior firepower and lethal munitions. It is also considered as a key weapon to maintain dominance at the border against enemy forces. Napoleon Bonaparte once said, "God fights on the side with the best artillery" (Singh, 2014, p 5). Whereas Joseph Stalin regarded Artillery as "God of war" (Hill, 2017, p 156) which has the ability to turn the tables on enemy during war. The Indian military has invested a lot over the period of time to develop and procure advance Artillery Guns to maintain conventional dominance vis-à-vis Pakistan.

In that context, the Indian government has carried out a deal of \$737 million with the American firm to procure M777A2 LW155 ultralight howitzer Artillery Guns to add greater firepower in the forces positioned at the Line of Control and working boundary with Pakistan. India carried out a deal worth \$660 million with a South Korean firm to jointly manufacture about 100 Artillery Guns by 2022 under make in India initiative by the Modi government (Chabba, 2016). Apart from imports the Indian military has also launched indigenous artillery program to fill the operational gaps in this domain. The DRDO developed Dhanush Artillery Gun with 155mm/45 calibre attributes. In line with this the DRDO has also started work on the advance version of Dhanush Artillery with 155 mm / 52 Cal features for enhanced firepower, range and precision (Singh, 2016). The induction of long-range artillery guns along

with enhanced mobility, light weight, modern electronics and computing attributes would make this a lethal combination. These Guns are meant for hilly and rough terrain like LoC, plains of Punjab and deserts of Rajasthan.

Pakistan's Procurement of Artillery Guns: Greater Firepower

The Indian military's development in Artillery Guns forced Pakistan to reciprocate and improve its own Artillery Guns to maintain conventional balance in south Asia.

The T5-52 155mm 52 calibre -Artillery Guns

Pakistan approached the South African defense firm for the induction of T5-52 155mm and 52 calibre Artillery Guns. These Guns are truck mounted and possess a potent range of about 600km and speed of 85km which makes it a weapon of choice in the modern warfare scenario where range, speed and maneuverability plays an important role in the outcome of warfare. The T5-52 Gun has an effective range of 42.5 km to fire ammunition with greater accuracy and precision. This Artillery Gun has the capacity of 27 on- board projectiles and 26 on-board charges. It involves a crew of 4 to bring this Artillery Gun into action or out of action within a minute (Artillery, 2017). This Artillery Gun would revamp Pakistan's firepower at the Line of Control, working boundary and international border. Greater firepower and outreach of this artillery gun would prevent the Indian military from any offensive operations against Pakistan.

The Serbian Artillery Gun- NORA B-52

Another important step by Pakistan military is the likely induction of Serbian Artillery Gun- NORA B-52 to refurbish its firepower at the LoC. Recently, Pakistan Army's Director General of Artillery, Major General Farhan Akhtar visited Serbia for prospective procurement of modern Serbian Artillery Gun, NORA B-52 for Pakistan Army (Khan, 2017). The NORA B-52 is a 155 mm 52-calibre gun with a potent range of about 41 km, which could be a great induction as far as Pakistan's position at the LoC is concerned. After the induction of this Artillery Gun, Pakistan Army will be able to reciprocate any provocation by the Indian Army at LoC or International border. This truck mounted Artillery Gun is highly maneuverable in the plains of Punjab or desert areas which could attain a maximum speed of 90km with an effective range of about 1000km, which may add greater maneuverability and enhanced firepower in the Pakistan army (Khan, 2016). Keeping in view the Indian Army's capabilities to detect the artillery position, rocket or mortar sites with their Swathi-Weapon Locating Radars, Pakistan Army urgently need such a portable Artillery Gun to dodge the enemy's Weapon Locating Radars by changing its position swiftly after carrying out strike on the enemy positions to avoid detection or destruction.

The KH179 155mm Towed Howitzers

Pakistan is quickly filling the gaps in its Artillery Guns. Pakistan and South Korea inked a deal to induct South Korean KH179 155mm Towed Howitzers. This Artillery

Conventional Asymmetries between India and Pakistan: A threat to the Deterrence Stability of South Asia

Gun is a 155mm/39-calibre Towed Howitzer which has the ability to fire four rounds in one minute at a distance of 30 km. The Indian government's mad rush for modern weapons forced Pakistan to allocate about \$12 billion on the purchase of latest weapons to maintain strategic parity in the region. It is expected that Pakistan will spend about \$855million on the procurement of advance Self-Propelled Howitzers (Pakistan Imports Towed Howitzer, 2017).

Pakistan is forced to maintain conventional balance, because nuclear weapons cannot prevent India from using its advance artillery against Pakistan's positions at LoC or working boundary. It is the conventional deterrence that would deter the Indian army from any provocation at the border. Once these advance artillery guns are in place it would provide Pakistan with enhanced fire power with superior range, accuracy and lethality against the Indian Army.

Indo- Pak Race for Advance Gunship Helicopters

The gunship helicopters are an integral part of any quick and swift warfare strategy. The Indian military is eyeing rapid thrusts under CSD or proactive military operations. More often the Indian political and military leadership reiterated that they would carry out surgical strikes. Such operations require greater synergy and integration between land and air force, close air support of the highly advanced gunship helicopters and lethal firepower to create panic in the enemy forces. The Indian government has carried out a major defense deals with the US to procure highly sophisticated Apache helicopters to maintain dominance in this sphere. The induction of Apache helicopters compelled Pakistan to acquire advance helicopters of its own from China, Russia, US and Turkey to preserve conventional parity vis-à-vis India in south Asia.

Chinese Z-10 Thunderbolt Helicopter

Pakistan and China started to integrate Z-10 gunship helicopters in 2015 which is considered as a replacement to the ageing US Cobra helicopters (Fels, 2016. p 446). Initially, Pakistan inducted three Z-10 "Thunderbolt" helicopters in 2015 to add offensive punch and fill the operational gaps in the Army aviation. The Z-10 helicopter is armed with HJ-10 anti-tank missile, 23mm chain gun, which can fire 600 shells in a minute. The Z-10 thunderbolt helicopters are also considered as identical to the US Apache Gunship helicopters. These helicopters are equipped with night vision capabilities and are best known for their enhanced maneuverability and speed in the close combat scenario (Lin, 2015). The procurement of these Helicopters from China would not only strengthen strategic ties between both states but also help Pakistan to ensure credible conventional deterrence against any threats from Indian military.

The Induction of Russian Mi-35 Gunship Helicopter

Another important induction in this category was the Mi-35 Helicopter from Russia. Pakistan and Russia signed a deal for the procurement of four Mi-35 Helicopters in

2015 (Osman, 2015) and received all in 2017 (Dominguez, 2017). The Mi-35 helicopter is a multi-mission helicopter for specialized operations in tough terrain and harsh weather conditions. It is also known as a 'flying tank' because it carries different types of lethal ammunitions. The Mi-35 has the ability to absorb 50 calibre rounds because of its thick armor plates and bullet proof windshields, which makes it a deadly machine for close combat and intense warfare situations (Valle, 2016). This gunship helicopter is also armed with advance missiles and night vision capabilities to impede the thrust of the enemy's mechanized forces without any time barrier. The Russian Gunship possess a maximum speed of 310km/h and a potent range of about 460km ("Mi-35M (Hind E) Attack Helicopters, 2017). These capabilities makes the Mi-35 a lethal machine in the air. It would help Pakistan in countering the Indian military's advance against Pakistan and work as a force multiplier in case of any counter insurgency operations against militants or specialized military operations against the Indian military to maintain conventional balance vis-à-vis India.

The US AH-1Z Viper helicopters

Pakistan has also carried out a deal with the US to procure nine AH-1Z Viper Attack Helicopters to replace ageing fleet and add offensive punch in the conventional capabilities to counter the Indian military's attempt to create conventional disparity in south Asia. The AH-1Z helicopters are part of the Foreign Military Sales Program of the US government (Contracts: Press Operations, 2016). This helicopter is highly advance machine with greater maneuverability and firepower. It has a max speed of 420 km/h and a range of about 610km, which makes it a great weapon in the South Asian strategic dynamics ("US Navy orders nine, 2016). The AH-1Z Viper is considered to be the most advance Gunship helicopter in the world because of its superior maneuverability, deadly munitions and agility in all weather conditions. It is also equipped with night vision capabilities which makes it weapon of choice for Pakistan. The AH-1Z helicopter has the ability to carry 16- AGM-114A/B/C Hellfire anti-tank missiles along with pods with 70-mm rockets which enhances its lethality in an intense warfare scenario (Tchkuaseli, 2017). The procurement of AH-1Z Viper helicopter would help Pakistan to revamp its gunship fleet and replace its vintage helicopters. It would also provide Pakistan military with an offensive punch and close air support to the ground forces in an intense warfare situation.

The Turkish T-129 Attack Helicopters

Pakistan and Turkey are also negotiating the purchase of Turkish T129 helicopters. In 2016, Pakistan carried out tests of Turkish T-129 helicopters and decided to produce parts and assemble it in its Aeronautics Complex to uplift its indigenous defense industry. Pakistan Army Chief Qamar Bajwa has also paid a visit to Turkey and observed the performance of T129 helicopters (Pakistan Selects Turkish T129, 2017). Finally in May 24, 2018, Pakistan and Turkey officially inked a deal for the procurement of thirty attack helicopters (Jennings, 2018). The T129 ATAK is highly sophisticated machine equipped with modern technologies and greater munitions. This

Conventional Asymmetries between India and Pakistan: A threat to the Deterrence Stability of South Asia

T129 ATAK is a twin-engine helicopter specifically designed for attack and reconnaissance purposes against enemy. It has been improved to attain "high and hot" performance required in rugged terrain and harsh weather conditions (T129 Attack Helicopter, 2017). It has attributes to carry out uninterrupted operations even at night in all-weather conditions. These capabilities would enable the Pakistan military to execute special operations, close air support to the ground forces against enemy forces without any time constraints.

The T129 ATAK has the ability to carry different types of missiles, which may include the US hell fire, Israeli spike, or many other kinds of guided or unguided missiles, which makes it a lethal machine in the modern times. In Addition, this helicopter possesses a max cruising Speed of 269 km/h along with an effective range of about 561kms, which makes it a superb choice by Pakistan military keeping in mind our areas of operations, terrain, enemy and strategy (T129 Attack Helicopter, 2017). The induction of T129 ATAK would enable the Pak Army to execute missions with greater ease, accuracy, precision along with enhanced firepower.

Long Range/Endurance Armed Drones

The Indian government after the Kargil conflict in 1999 acquired modern UAVs from Israel. Later this collaboration improved and now Israel has become the leading supplier of advance armed UAVs to the Indian military (Pubby, 2018). Other than Israel the Indian military is also negotiating with the US to induct armed UAVs for likely cross border strikes, surveillance and reconnaissance missions against Pakistan (Pubby, 2018). The Indian military's acquisition of armed UAVs compelled Pakistan to develop its own armed drones with short range and limited endurance to deter any misadventure by the Indian military across the LoC, working boundary or International border ("Pakistan successfully tests, 2015). It is reported that Pakistan is working to enhance the range, endurance and lethality of its armed UAVs (Williams, 2017). Apart from the development of armed UAVs, Pakistan has the ability to shoot down any Indian drone.

According to the former Air Chief Marshal (ret'd) Tahir Rafique Butt, "We can shoot down Indian UAVs flying at an altitude of 50,000 to 55000 ft without any problem. We shot down Indian UAV 15 years back" (Butt, 2017). Another senior military officer of the Pakistan Army, Lt General (ret'd) Naeem Khalid Lodhi believe that the Indian military's capacity to launch strike through UAV is limited, he said,

Indian forces are quite some time away before they can carry out surgical strikes with the help of a drone. Because that requires a lot of precise control, and very special ammunition which they might be having but must be having with very low quantity. And also whenever you import a technology there is always something left out because if you compare it with the US, they have a very comprehensive global

network of using drones. So to use drones for surgical strikes is possible but to use it on large scale which can really make some impact is not an easy thing (Lodhi, 2017).

Therefore, Pakistan's development of armed UAV is a significant development to deter the Indian military's likely cross border strikes. In case the Indian Army launches any 'surgical strike' from its UAVs, it is expected that Pakistan will reply in the same fashion which may undermine the Indian military's strategic initiative.

Threat to the Deterrence stability in South Asia

Most of the Indian and Western scholars believe that the possibility of limited war in south Asia is reality. Mearsheimer defined this challenge in these words, "the level of fear between states varies from case to case, but it can never be reduced to an inconsequential level. The stakes are simply too great to allow that to happen. International politics is a potentially deadly business where there is the ever-present possibility of war, which often means mass killing on and off the battlefield, and which might even lead to a state's destruction" (Dunne, 2013. p 80). In South Asian strategic milieu, the Indian military's persistent doctrinal maneuvering, military modernisation and continued war mongering by the Indian politico-military leadership, there is a possibility of limited war in this region. In 2017, Indian COAS reiterated that the Indian military will cross the LoC and attack Pakistan (Singh, 2017). He also emphasized that CSD type of aggressive Ops are possible in the modern times because in 2015, the Indian Prime Minister Narendra Modi declared in the combined commanders' conference, that "future conflicts will be shorter, and wars will become rare" (Unnithan, 2017).

Nevertheless, the operationalization of any offensive doctrine or military operation would be difficult and dangerous for the Indian armed forces. Many academics doubt the Indian military's ability to execute any limited war doctrine against Pakistan (Narang, 2017). However, the Indian armed forces are quickly filling up the gaps in their overall capabilities. Since 2004, the Indian military has conducted numerous military exercises in which they not only practiced their limited war doctrines but also inducted modern weapon and equipment to fill the operational gaps. Senior Fellow at Carnegie Endowment, Ashley J Tellis is of the opinion that,

There is a low probability of limited war between India and Pakistan, but the risks are related less to Jammu and Kashmir and more to terrorist attacks against India. India and Pakistan can sustain major conventional war, but it would be costly and dangerous for both countries (Tellis, 2017).

The Indian military and political leadership on many occasions expressed their desire to carry out strikes inside Pakistani territory, and now it seems that the Indian military would never like to indulge in long drawn out wars but instead go for punitive surgical strikes across the LoC. Though they claimed a surgical strike in 2016 but could not present any concrete evidence to prove their claim at local or global level.

Conventional Asymmetries between India and Pakistan: A threat to the Deterrence Stability of South Asia

However, it is possible that they may in future execute their thinking to carry out limited incursions or special forces raids across the LoC, which may invite befitting reply by Pakistan because LoC is heavily militarized area, the moment they cross the LoC, they would be detected. It is highly possible that their commandos would be killed or arrested which may complicate things for the Indian political and military leadership. Despite that many Indian scholars believe that there are chances of limited war between India and Pakistan. Mr. Shashank Joshi, of RUSI explained the triggering points of limited war in these words, he said,

Yes, (there is a possibility of limited war in south Asia), because we had such a war in 1999. In fact, such a war could break out not just over Kashmir, but also over terrorism elsewhere - such as in Punjab, wider India, or even in Afghanistan. It could also be caused by India-China conflict, which draws Pakistan in. Limited war is eminently possible, and it would be complacent to imagine that it cannot occur (Joshi, 2017).

The Indian military has the ability to impose a limited war on Pakistan but at the same time initiating a limited war would be tricky and risky for both nuclear belligerents because at the end of the day a limited war for India may not be limited war for Pakistan. Pakistan military may impose heavy damages on the Indian side which may escalate the conflict which may turn out be a triggering point for a major conventional or nuclear war.

According to Brigadier (ret'd) Feroz Hassan Khan, "Limited war in India's mind would be a total war for Pakistan from the very beginning. You can start a war, but you cannot end it on your terms and conditions. Limited war as thought by India will never remain limited as they think, it will expand more, because much more destruction and escalation control would be very dangerous" (Khan, 2017). Therefore, some of the Western scholars believe that there is likelihood of a limited or total war between India and Pakistan. According to Mark Fitzpatrick,

I do see a great possibility of not just limited war but all-out war in south Asia, I think the limited war could start based on sub-conventional attack as occurred in Mumbai and against the Indian parliament in 2001. The dynamics has led to those attacks still present in south Asia and the way, those previous attacks were in some way connected to the Pakistan government not that the government of Pakistan directed them to attack but they had some training in the past they had some guidance and they still have some kind of connection. This is very likely to happen again in the future and when it happens India's response would be more forceful than of course that at the time of Mumbai according to the general mood in India the general policy of India (and) defense right now, and when India responds, Pakistan's response might also be tit for tat and this could lead to an escalation (Fitzpatrick, 2017).

The conventional imbalance between India and Pakistan would increase the chances of limited war between India and Pakistan. However at present, Pakistan military has maintained adequate conventional balance but keeping in mind the size and growth of the Indian economy, it is highly possible that the Indian military may get an upper hand in future as far as conventional capabilities are concerned.

Then, Pakistan would be compelled to rely on its tactical or strategic nuclear weapons to fill the conventional gap and deter the Indian military from any offensive maneuvers under the nuclear umbrella. The development of battle field nuclear weapons and strategy of full spectrum deterrence was an effort to dissuade the Indian military from capitalizing on the gap between conventional and nuclear capabilities of Pakistan. The Hatf-IX- (Nasr) is a short-range and low yield tactical nuclear weapon to deter the Indian military's doctrinal shift in South Asia. The Hatf-IX is highly sophisticated missile along with precision strike, shoot and scoot characteristics.

Initially, it had a range of about 60km (Press Release: No PR-94, 2011) but with upgradation in 2017 now it has a range of 70km, which fits into the geographical settings of this region. Pakistan Army Chief echoed that, "the Hatf-IX put Cold Water on Cold Start" (Syed, 2017). Former DG of the SPD, Lt. Gen (retired) Kidwai reiterated that the sole purpose of Tactical Nuclear Weapon is to dissuade the Indian army from the execution of Cold Start Doctrine against Pakistan (A conversation with Gen. Khalid Kidwai, 2015).

The induction of Tactical nukes in Pakistani arsenal deterred Indian Army from limited strikes under CSD or proactive military operations strategy. But the strategic dynamics of the region drastically changed after the 2011. The IAF came up with Sub-conventional warfare strategy in 2012, which aimed at punitive strikes against alleged militant hideouts across the LoC (Subramaniam, 2012, p 105). The Indian policy makers believe that these operations would remain below the nuclear threshold of Pakistan and allow the Indian military to capitalize on the gap between conventional and nuclear capabilities of Pakistan. But as of today the Indian military lack adequate capabilities, assets and human intelligence across the border. However, it is just the matter of time and capabilities. Once the Indian military acquire essential capabilities for quick and swift operations they may try to cross the line and engage Pakistan military in a limited skirmish which may escalate after significant losses on both sides. Former Commander of Pakistan Army Air Defense Corps, Lt Gen (retired) Zahid Latif Mirza anticipated that, "the Indians can operationalize CSD because they are working on it. They are building forward garrisons, underground bomb proof sites, conducting regular military exercises and cutting short the mobilization time. All these developments are vivid that they are going to operationalize CSD against Pakistan" (Mirza, 2018).

In such a scenario Pakistan would require to induct modern weapon and equipment to counter any offensive operations on its soil. The use of tactical nuclear weapon against India would have far reaching implications for the regional and global

Conventional Asymmetries between India and Pakistan: A threat to the Deterrence Stability of South Asia

security. The use of TNWs may invite massive retaliation by the Indian military as declared in their nuclear doctrine. Any nuclear exchange in this region would be devastating. It is necessary that both states must show some restraint and work together to ease tensions. Former Commander of Pakistan army Air Defense Corps, Lt General (retd) Zahid Latif Mirza view nuclear war as suicidal for both states, he further expounded that,

.....frankly speaking, my first reaction would be that both should recognize the fact that nuclear war is a suicidal war, nobody is going to win. Both should realize that neither side should push the other to the edge of nuclear weapons. Once you reach the nuclear weapons then there is no end, where it will finish. I personally feel that they should not push each other but if they keep on doing it suppose, if India crosses red-lines defined by Lt. General (retd) Kidwai, then Pakistan will be forced to reply, by choice Pakistan would not. But if you are forced into a situation then you have no option and that situation should be avoided even by India. Pakistan may be very badly damaged, but India will also be damaged very badly (Mirza, 2018).

Furthermore the Tactical Nukes of Pakistan may deter India from Cold start or proactive military Operations but what about sub-conventional operations or surgical strikes across the LoC. To counter this emerging threat, Pakistan would require impeccable conventional military capabilities to discourage such operations and make it costlier for the Indian military. The conventional deterrence in south Asian context would increase the cost of any offensive maneuvers for the Indian military, consequently prevent the Indian government from any misadventure under the nuclear umbrella.

Conclusion

The Indian military's doctrinal maneuvering and massive military modernization would create security dilemma for Pakistan in South Asia. The increasing conventional disparity would make room for the Indian military to execute its limited war doctrine, sub-conventional operations or surgical strikes against Pakistan. However, Pakistan must strengthen its conventional deterrence vis-à-vis India to maintain strategic stability in south Asia and prevent the Indian military from any aggressive maneuvers. The proponents of the conventional deterrence believe that strong conventional capabilities would create fear in the mind of the adversary, that the cost of any limited conventional war may supersede the planned benefits and may turn out to be a sheer embracement or humiliating defeat. In Indo-Pak context the conventional disparity is not worsening at the moment, in fact it is manageable for Pakistan. Pakistan has effectively balanced the Indian military in certain areas which includes Main Battle Tanks, Advance Artillery Guns, Attack helicopters, anti-tank guided missiles, second strike capability and armed UAVs.

However, there are certain areas where Pakistan lags at the most and must invest in the near future to maintain conventional balance with India. Those areas include the Long-range air defense systems, fifth generation aircraft, nuclear submarines, long range armed UAVs, spy satellites, Network Centric and Electronic Warfare capabilities. Pakistan's conventional capabilities are necessary to maintain peace in the region because the Indian military may not invoke the red lines of Pakistan or operationalize its CSD/Pivot Corps, but what if they carry out limited incursions or surgical strikes across the LoC with modern aircraft backed by long range air defense systems. In that situation Pakistan will not use battlefield nuclear weapons.

Moreover, TNWs are not an answer to a concentrated artillery fire at the LoC, working boundary or international border. To counter conventional capabilities of India, Pakistan has to maintain adequate conventional deterrence backed by nuclear weapons. Pakistan military must improve its indigenous defense industry to overcome costly imports and refurbish and upgrade its MBTs, APCs, and other mechanized forces with the help of China.

Pakistan can overcome its long-range air defense worries with the help of Chinese. Pakistan may acquire the Chinese long-range air defense system which has the ability to take out any modern aircraft in the world and cater for standoff capabilities of the Indian Air Force. In addition, Pakistan and China are already jointly manufacturing aircraft and it is reported that work on the fifth-generation aircraft has already commenced. These upgrades would help Pakistan to maintain conventional balance with the Indian military in the foreseeable future to maintain strategic parity in the region to deter any offensive operations under CSD, proactive military operations, sub-conventional operations or surgical strikes.

Conventional Asymmetries between India and Pakistan: A threat to the Deterrence Stability of South Asia

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Dr. Masood Ur Rehman Khattak and Dr. Mansoor Akbar Kundi

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