



The Losing Deterrence of Tactical Nuclear Weapons

Briefing Paper
May 2017

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REPORT AUTHORS

“The Losing Deterrence of Tactical Nuclear Weapons” was researched, compiled and written by Ahmad Ibrahim, a contributing analyst at CommandEleven on military strategy, tactics and operations. He is currently completing his MPhil in Strategic Studies from National Defense University in Islamabad.

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After the completion of nuclear program utilizing strategy of sheltered pursuit, Pakistan successfully demonstrated its nuclear delivering capability by testing & deploying Short Range Ballistic Missiles (SRBM) and raising dedicated Squadrons for strategic strike back in late 90s. It enabled Pakistan to strike counter force assets of Indian armed forces with nuclear payload. This served as deadly blow to Indian XYZ strategy which was focused on accumulation of huge chunk of armored force close to border for giving decisive challenge to Pakistan by out numbering & out gunning its defensive measure.

Deployment of Strategic WMDs by Pakistan nullified this tactic as such large force concentration is appealing target for any strategic weapon. To re shift the balance in their favor, the Indian strategists came up with a new solution which was named as Cold Start Doctrine (CSD). Though officially this doctrine existence is not acknowledged but there are enough indications which points out that this strategy is not a random myth but a well-organized & well executed pro-active war strategy. Cold Start Doctrine is based upon concept of small and rapid strikes on soft targets with in Pakistan territory without overcoming the Nuclear Threshold limit. This strategy enjoys benefit due to natural lack of strategic depth on Pakistan side, particularly, on Southern Punjab & Northern Sindh sectors. With Mountain regions of Suleiman on Western side, desert on Eastern side, this region serves as soft belly of Pakistan that can literally split Pakistan into two halves if it fell in hands hostile invading force. This region joins Pakistan via water channel of Indus River, road & railway network thus playing a key strategic role in terms of land & sea-based connectivity.

Its worthy to point out that Cold Start is strictly based upon mechanized invasion force. For rapid movements, it's crucial that invading forces must not face any credible resistance from defending forces plus the terrain should decisively support the mission & objective. Kashmir being a mountainous region serves as natural protection layer in between both states making movement of large forces under the dynamics of CSD impossible. Boggy Plains of North & Central Punjab might appear an appealing location but it is heavily defended by Pakistan army corps which thanks to robust network of railway & roads can rapidly move & deploy in very short interval of time. This capability was successfully demonstrated during 2002 Military Stand-off when Pakistan gave soft tactical defeat to Indian armed forces even before ignition of any conflict. Presence of river-canal systems, urban areas make Punjab good in ambush defensive tactics particularly against tanks in the form of ATGM fortifications. These factors application of CSD in Punjab region way risky in terms of losses related to time, life & equipment. South & Lower Sindh is covered with vast Marshy lands through which movement of heavy armor is not a possibility. This leaves only Desert terrains shared by Pakistan & India in the form of Great Thar desert (Punjab & Rajasthan). In deserts, terrain is neither well defined nor permanent, sand movement keep on shifting space so mass fortification is not possible. Vastness of desert offers flexibility in battle field tactics including flanking movements hence making it attractive target for any armored invasion. Though Pakistan have deployed its armored & mechanized armored groups close by but still it does not address the core issues by posing questions related to their rapid mobility & target acquisition in case of CSD inspired invasion.

India kept cold start doctrine in darkness, known to only close circles and started to prepare accordingly by pouring huge amount of funds. This included the purchase of

relevant military hardware, establishment of robust C4ISR assets (Command for Intelligence Surveillance, Reconnaissance), improved training standards and adhering of CSD linked tactics in Corps deployed in Rajasthan. Currently India's South Western Command (Corp I & X) and Southern Command (Corps XII & XXI) are affiliated directly or directly with CSD. Pakistan first tried to neutralize this threat by exploiting it at diplomatic level to address the threats to peace and ignition of arms race in long terms but Indian denial on existence of such doctrine & counter diplomacy rendered such attempts use less. This was the time Pakistan came up with unique solution to this unique problem. Due to Economic constraints and limited sources to buy military armaments, Pakistan was very short of options. By closely observing the past NATO doctrine in European theater against Soviet ground invasion as well as domestic technological domain, Pakistan re introduced Tactical Nuclear Weapons (TNW) in battle grounds as a counter tool verses CSD. NASR was specifically developed as Indian Cold Start Killer. NASR is primarily a Quasi Ballistic Missile which is carried by Multi Tube TEL vehicle (Tactical Erector Launcher). It can carry four missiles each armed with sub kilo ton miniaturized nuclear warheads. Missile as per official claims have max range of 60km, utilizes Inertial Navigation System & Global Positioning System (INS/GPS), powered by Solid Fueled Propulsion with thrust vectoring (TV) nozzles. The Development & deployment (D&D) of NASR Battle Field Nuclear Missile system gave birth to Pakistan's own Full Spectrum Deterrence Doctrine (FSD) which relied on concept that any major armored invasion on Pakistani soil can be countered by NASR as unlike any armored force which is prone to air strikes and face certain time limitations related to strategic mobility, NASR battery is much easier to keep in stealth, can be moved more rapidly, have shoot and scoot capability which increase its survivability as well as carry enough destructive power to halt any ground invasion dead on its tracks.

This move of TNW was met with hue and cry at international level. For India, it was matter of serious concern as TNW put its billions of dollars' expenditure at stake. India took it as "Pakistan can now do whatever it wants without worrying about any serious threat on Eastern border". Pakistan played its shot very well in geo strategic grounds, now ball was in Indian court and it did play the return shot.

Indian answer to Pakistan FSD can be split into two major types. One is related to soft power projection other is about hard counter measures. Times when Pakistan introduced TNW, Pakistan was facing severe challenge from foreign funded local insurgency. This era of terror domination put question mark on Pakistan future uniquely as Nuclear State. This weakness of Pakistan was exploited by India which raised questions on security of Pakistan nuclear program. Both at domestic & international level, Indian sponsored journalists made reports, conducted surveys & wrote articles about the possibility of falling TNW of Pakistan in hands of terrorists and its possible outcome to Global peace in case of usage by rogue elements. Using justification that Pakistan considers India as its arch rival, India showed itself at spot that it faces most brutal threat in case of security breach of any random TNW. This perception & propagation of this perception awarded India with multidimensional favors at all levels at Diplomatic, Strategic & Social scale. In long terms, it helped them to pursue certain weapon systems. It also put crushing pressure on Pakistan establishment of abandon TNW program in favor of economic support. United States, unsatisfied with Pakistan role in Global War on terror also backed this pressure wave to generate more action from Pak army to serve American interests in Afghanistan. Lobbies were created in International forums which without even knowing the basics of core issue

used to raise fingers at Pakistan TNW program. Foreign funded, home grown NGO network & private media houses of State also facilitated similar ideas. As a whole it put significant load on top elite of armed forces to reconsider their policies since it was compromising Pakistan interests at certain level and was creating unnecessary hurdles related to fields of economics, energy generation, foreign diplomacy and public relations. However, Pakistan responded by enhancing the security measures & improving the Command & Control (C&C) system of Strategic assets.

The core concept behind development of NASR is to forecast deterrence on Indian army avoiding ignition of any war like activity no matter what are the conditions. This security dilemma pushed Indian policy & plan makers to basics to technologically overcome this new form of threat. Indian area of work on hard counter solutions can be split into three portions. First is related to advance reconnaissance via Ground based radars, SAT Recon, UAVs for pin pointing locations of deployment of NASR batteries with in Pakistan territory. These batteries once detected can be tracked and neutralized by standoff armaments thus securing the "path" of invading armored columns. Most notable component is ground strike fleet of Indian air force which is upgraded to deliver guided payload with precision at long ranges. In near future, integration of Rafale in IAF is likely to give big boost to this domain as it introduces advance ECM/EW along-side state of art air to ground armaments. Second portion is linked with "Interception" assuming that if Missile is launched then it could be tracked & shot down before reaching the target. Though Indian possess Tunguska SPAAG & mobile air defense systems in the form of SA8 Osa, SA6 Buk & Akash SAM system but none of them has practical capability to intercept NASR at its terminal phase. To full fill that void Indian Army has ordered five regiments of MR-SAM (Barak 8), which consists of about 40 launchers and 200 missiles for 2.5 billion \$. MR-SAM can intercept helicopters, UAVs, air crafts & cruise missiles at long altitude. What is the real purpose of this Indo-Israel deal? how it will be used and how effective this system will be in CSD theater is still a question. But there are visible attempts by Indian armed forces in this area along-side Israel which is globally known for developing systems which can intercept rockets & short-range missiles. Final portion is about "survivability". It hypothetically bonds with situation that NASR has been used on Indian ground battle group and it must be resistant enough to survive such attack. Though info related to NASR technical data like its warhead size, its type, trajectory path, launch angles, max speed, RCS, radiation signature etc. are classified however it's an educated guess that it relies on mixture of its blast force & intense radiation to compromise its enemy existence. Ever since the introduction of NASR, India is focused on maturing its NBC protection levels. Recently military drills were conducted in simulated NBC (Nuclear-Biological-Chemical) environment (Shatrujeet Drills) and it saw participation of military gear related to CBRN (Chemical-Biological-Radiological-Nuclear) protection. Though it's not known how preservative such drills will be in actual situation but it does compromise the vital feature of NASR to serious extent, The Deterrence. By undergoing these "hard measures" Indian army is gaining confidence that it has found the way which can serve as solution to problem of TNW. Rather than abandoning cold start, recent updating in war strategy signifies the importance of progressive counters from Pakistan side to keep its mark ahead.

Nonetheless, TNW represent Pakistan capabilities in the discipline of Weapon science & war strategy, it does pose some serious risks & out comes. Firstly, TNW compromises the

“gap” between Conventional war & Nuclear war. According to Indian Nuclear Doctrine, India will respond with Strategic WMDs in case if any WMD is used against them anywhere in World. As per theory, using NASR in first strike will give justification to India for full fledged nuclear retaliation. Recent reports suggest, India is very likely to strike Pakistan entire nuclear capability with nuclear weapons for ironing out any WMD related threat to its main land. If India fails to do so then Pakistan will respond in similar brutal fashion using its 2nd strike assets creating an apocalypse of MAD (Mutual Assured Destruction) for South Asia. Greatest risk of TNWs usage can thus be formulated as the ignition plug for nuclear war.

The dynamics of TNW use are indeed compromising which pose the question that is there any one on one relevant replacement of this system? Keeping International relation, diplomatic grounds and foreign agreements in sight, TNW use will instantly bring intense backlash from rest of Globe compromising key strategic interests of Pakistan. It will instantly isolate Pakistan at Global level creating severe challenges to Pakistan security in short terms generally and long terms specifically. To avoid that, an equally capable armament is required which can do the job without qualifying in category of WMD. An interesting option to consider is warhead or guided bomb Sensor Fused Anti-Tank Cluster Munitions. These cluster munitions are actually anti-tank bombs coupled with a joint tracking system which allows them to strike top of moving target at pin point accuracy. As top of turret is weak spot of a Tank, so these bomblets give assured results. United States developed similar smart weapon first time by using AGM 154 JSOW (Joint Stand Off Weapon) as carrier platform. A similar air to ground munitions is CBU-97/105 unguided sensor fused cluster bomblets. What Pakistan needs as final product is union of both ASM 154 & CBU 97. These munitions can be packed in air to ground bombs and cruise missile. GIDS in Pakistan has developed cluster munitions packed in air to ground bomb called Hijara for anti-armor role and Pakistan does have advance delivery platforms from multiple sources in the form of Ra’ad I&II (Air to Ground Strike) and Babur I&II (Ground to Ground strike). Though these bomb-lets are neither sensor fused nor carry guidance system, there is room for sufficient upgrade to introduce independent search & track system in each bomb-let. By doing so, Pakistan will be able to deploy smart anti-tank cluster munitions through Babur LACM or Ra’ad ALCM. This new weapon system, could strike any armored column at stand-off distance by engaging from top, independently picking each target and rendering entire hostile force useless.

From start, Tactical nuclear weapons were supposed to serve as stop gap measure against raging Indian aggression for time being. Availability of time, tech & funds, has granted Pakistan several options to overcome CSD based threats in general terms. Once implemented, it will put TNWs in shadows as Pakistan will be able to counter conventional threats with conventional force. Meanwhile, according to knowledgeable sources Pakistan is ready to counter the Cold Start by developing its own New Concept of War Fighting (NCWF). The country has addressed both modes, conventional and nuclear in the NCWF. Since the Cold Start was more in cognitive domain and aimed at psychologically putting pressure on the Pakistani leadership, the NCWF has blunted it in both physical and psychological domains and taken the sting out of it. The exact salient features and scale of implementation is yet to be known, but Pakistan will keep NCWF in dark for time being to earn psychological advantage. It’s very safe to assume that Pakistan will keep on developing its TNW assets, however priorities related to its usage might change. In

coming half decade Pakistan is looking for serious boost in its anti-armor capability. The induction of more 3+ Generation tanks in the form of Al Khalid I/II, Al Haider MBTs, acquisition of advance Gunships like AH1Z & T129b, MALE UCAVs & ground vehicles with F&F ATGM payloads are part of scheduled plans. Nonetheless, threat level will increase too across the Eastern border as India will update its armored corps with 10 new regiments of Advance T90MS replacing old T72 Ajeya, AH64E Gunships, Avenger UCAV & K9 SPA alongside advance air defense systems. These purchases virtually explain the arms race going on in between India & Pakistan in lieu of doctrines like CSD, FSD & now NCWF. Being defensive, Pakistan will enjoy certain edge over India but it must be kept in mind that Cold Start Doctrine is not the only threat Pakistan is facing or will be facing in future. Indian army has raised specialized Mountain strike corps and has upgraded its infantry gadgetry alongside air borne operations. New dimensions or warfare are introduced as India is struggling to open a secondary front in Pakistan Western front, dividing the focus & force. Cold start in long terms may act as diversion to implement any new surprise strategy.

For Pakistan, it will remain state of continuous challenge and there will be need of continuous work on policy making, arms acquisitions and improvement of secondary sources to address all such Issues. For time being Pakistan is comparatively doing a fine job considering certain limitations, however with time it will become crucial to fill up all voids to overcome future threat environment.

ABOUT THE AUTHOR

Ahmad Ibrahim is a contributing analyst to CommandEleven on military strategy, tactics and operations. He is currently completing his MPhil in Strategic Studies from National Defense University in Islamabad.

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