Indian Military’s Cold Start Doctrine:
Capabilities, Limitations and Possible Response from Pakistan

By

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List of Acronyms

AWACS  Airborne Warning and Control System
ABM    Anti Ballistic Missile
AEW    Airborne Early Warning
BFSRs  Battlefield Surveillance Radars
C4ISR  Command, Control, Communication, Computers, Intelligence Surveillance and Reconnaissance
CSD    Cold Start Doctrine
C4I    Command, Control, Communications, Computers and Intelligence
CAG    Comptroller Auditor General
CDS    Chief of Defense Staff
DGMO   Director-General of Military Operations
EW     Electronic Warfare
FATA   Federally Administered Tribal
FMCP   Force Multiplication Command Post
FPD    Fire Power Demonstration
HQ-9   Hongqi-9
ISRO   Indian Space Research Organisation
IPKF   Indian Peace Keeping Force
IBGs   Integrated Battle Groups
IAF    Indian Air Force
JCSC   Joint Chiefs of Staff Committee
LORROS Long-Range Recce and Observation Systems
MBT    Main Battle Tank
NCW    Network Centric Warfare
NBC    Nuclear-Biological-Chemical
NCOs   Non Commissioned Officers
OIC    Organisation of Islamic Conference
PAF    Pakistan Air Force
RAPID  Reorganized Army Plains Infantry Division
SAM    Surface to Air Missiles
SCO    Shengai Cooperation Organisation
SIPRI  Stockholm International Peace Research Institute
UAVs   Unmanned Aerial Vehicles
UN     United Nations
US     United States
WLRs   Weapons Locating Radars
Contents

List of Acronyms 02

Abstract 05

1. Introduction 06

2. Indian Military’s Cold Start Doctrine- (CSD) 06

3. Indian Military’s Capabilities for the Implementation Of Cold Start Doctrine 11

4. Indian Military Exercise from 2004-2010 14

4.1. Exercise Divya Astra- 2004 14
4.2. Exercise Vajra Shakti- 2005 15
4.3. Exercise Desert Strike- 2005 15
4.4. Exercise Sanghe Shakti- 2006 16
4.5. Exercise Ashwamedh- 2007 16
4.6. Exercise Shatrunash- 2007 17
4.7. Exercise Brazen Chariots- 2008 17
4.8. Exercise Hind Shakti - 2009 18
4.9. Exercise Vayu Shakti - 2010 18
4.10. Exercise Yodha Shakti- 2010 19

5. Main components used in Indian Military Exercises from 2004-2010 20

6. Evaluation of Indian Military Exercises 25

7. Critical appraisal of the Indian Military’s CSD: Limitations 26

7.1. Infrastructure Barriers for IBGs at the Border 26
7.2. Uncertainty in the Limited war 26
7.3. Shortage in Military Weapons and Equipments 27
7.4. Shorter Lines of Communication Advantage for Pakistan 28
7.5. Nuclear Dimension 28
8. Pakistan’s Response to Indian Military’s CSD 30

9. Recommendations for Pakistan 34

9.1. Leadership/Military and Political 34
9.2. Regular Military Exercises and Coordination 34
9.3. Assertive Role of the Foreign Office 35
9.4. Technological innovation in Pakistan military machine 35

10. Conclusion 36

11. About the Author 37

12. Annexure 39
Indian Military’s Cold Start Doctrine: Capabilities, Limitations and Possible Response from Pakistan

By

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Abstract

The South Asian security is in danger because of the Indian Military’s Cold Start Doctrine. Cold Start is an aggressive military doctrine directed against Pakistan. Under the Cold Start Doctrine, India would launch quick, swift and short duration limited strikes against Pakistan to achieve shallow territorial gains. According to Indian Military’s Cold Start Doctrine, limited war is possible in South Asia. India has carried out ten exercises since 2004 to 2010 to operationalize Indian military’s Cold Start Doctrine. Indian latest defence acquisitions would cross 200 billion dollar mark in next 12 years; combined with this India is also bringing pre-emption as a component of its war fighting campaign. Irrespective of the number of exercises and defense acquisitions, Indian Military’s Cold Start Doctrine is still challenged by infrastructural, organizational, and operational barriers. Pakistan’s response has been timely and adequate however continues to adopt practical measures to counter Indian Military’s Cold Start Doctrine. For future deterrence stability Pakistan’s counter measures would require innovations related to force posture, doctrinal development and the overall deterrence relationship.

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1. Introduction

South Asian security is challenged by the most critical military threat, the Indian Military’s Cold Start Doctrine, which is based on change in the Indian military’s force posture and employment and deployment patterns. Lingering issues between the two nuclear powers of the region, Pakistan and India, resulted in 1948, 1965, 1971 wars and the Kargil conflict and it is a possibility however remote, that any future conflict may obtain a nuclear facet.

Thus deterrence in South Asia is delicate because of changing strategic environment. An assortment of crisis situations has troubled the relationship between Pakistan and India. The most serious were related to the Brass-tacks Exercise in 1986-87, the Kashmir-related crisis in the spring of 1990, 1999 Kargil clash, border standoff in 2001-02 and the threat of surgical strikes by India on Pakistan after 2008 Mumbai incident. All these crises situations depict that threat of escalation is even more evident than in the past because of the Indian Military’s Cold Start Doctrine (CSD) towards Pakistan.

India introduced Cold Start Doctrine (CSD) in the backdrop of attack on its parliament and subsequently its military failure to subdue Pakistan in the 2001-02 military standoff. India was unable to achieve its objectives because of international pressure and threat of nuclear escalation. Main purpose of Indian Military’s Cold Start Doctrine is to give a punishing reply to Pakistan in case of any alleged terrorist attack on Indian soil with totally different orientation of the Indian armed forces from defensive to offensive. Under this doctrine, Indian Army would carry out swift, quick and offensive joint operations with the support of its Air Force and air elements of Navy while giving no time to Pakistan to respond. It is evident from recent arms acquisitions, development in the armed forces and ten military exercises in the last six years that India is on course to put into operation its Cold Start Doctrine against Pakistan.

Former Indian Army Chief General (retd) Deepak Kapoor said that, “The possibility of limited war under a nuclear overhang is still a reality in South Asia.” However, there seems to be certain limitations in the operationalization of Indian Military’s Cold Start Doctrine. It is imperative to examine the doctrinal challenges and development of Indian armed forces. This paper has five parts: first part would briefly discuss the Indian Military’s Cold Start Doctrine and its main components, second part would assess the Indian capabilities for the implementation of Cold Start Doctrine, third part would highlight the limitations of the Cold Start Doctrine and fourth part would focus on Pakistan’s response to the Cold Start Doctrine. Last part will suggest some practical recommendations for Pakistan.

2. Indian Military’s Cold Start Doctrine (CSD)

A military’s doctrine provides the basic principles that shape the way in which its forces are employed to achieve

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national objectives. Doctrine reflects a military’s customary way of fighting and provides a common frame of reference for military officers by identifying their general missions as well as the basic concepts about how the armed forces will carry out those missions.2

In 2004, Indian Army introduced the Cold Start Doctrine (CSD) seeking to modify its approach to war, to fight short duration limited conflicts under the nuclear shadow.3 Indian Military’s offensive power has been concentrated into three strike corps, which possess an armoured division each with mechanized infantry and extensive artillery support. Holding corps operate as defensive corps at the border which consists of one infantry division each for static defence, one mobile mechanized division that could respond to enemy penetrations, and a small number of armoured units each.

Indian Military’s Cold Start Doctrine (CSD) would require reformation of the army’s offensive power into eight smaller division-sized Integrated Battle Groups (IBGs) that would have mechanized infantry, artillery and armour. The IBGs would be self-contained and highly-mobile, with Russian-origin T-90 MBT and upgraded T-72 M1 tanks at their core, adequately backed by air cover and artillery fire assaults, for rapid thrusts into Pakistan within 96 hours.4 Network Centric Warfare (NCW) and Electronic Warfare (EW) capabilities of the Indian Army and air force with robust command and control at its core would be employed to maximum effect. Synergy and integration between the Indian forces would be essential elements of the Cold Start Doctrine (CSD). Joint operations of three forces are key element of this doctrine.

According to Indian Military’s Cold Start Doctrine (CSD), holding corps (Pivot Corps) would play a crucial role when these defensive corps would initiate an offensive. The IBGs will seemingly maneuver under the command of the holding corps, and be deployed in smaller units that are based much closer to the border.5 In such case, Indian Army would be able to save deployment time.

It would achieve element of surprise and a quick response to any alleged provocation or terrorist attack. Main objective of Indian Military’s Cold Start Doctrine is to undermine Pakistan’s Military capability and make some trivial territorial gains that could be used in the post conflict negotiations to extract concessions from Pakistan. The eight battle groups would be prepared to

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launch multiple strikes into Pakistan along different axes of advance.\textsuperscript{6}

Indian Military’s Cold Start Doctrine (CSD) places major emphasis on the speed of both deployment and operations. By moving forces into unpredictable locations at high speed and opening up eight different fronts would put Pakistan Army in quandary. It would be difficult for Pakistan Army to respond and fight on eight different fronts. Indian Military objectives are limited under this doctrine. Indian analyst Subhash Kapila believes that under the Cold Start Doctrine (CSD), India would focus on the destruction of Pakistan Army and its military machine.\textsuperscript{7}

After analysing this doctrine, it can easily be assumed that the Cold Start Doctrine (CSD) would comprise following key elements:


\textsuperscript{7} Dr. Subhash Kapila, “India’s New “Cold Start” War Doctrine Strategically Reviewed”, South Asian Analysis Group, http://www.southasiaanalysis.org/%5Cpapers10 %5Cpaper991.html, (accessed on 15\textsuperscript{th} November, 2009).
These elements shown in the above figure are essential for the Indian Military’s Cold Start Doctrine (CSD). These elements will be utilised in the Cold Start Doctrine (CSD) to effectively launch multiple attacks on Pakistan. Additionally, possible thrusts of the Indian IBGs are shown in the Figure 2.

IBG-1 may be deployed at Jammu to target Sialkot and its adjacent areas. IBG-2 may be deployed at Amritsar to carry out attack on Lahore. Likely deployment of IBG-3 can be at Moga area near Chandigarh on Indian side of the border to commence an offensive at Kasur or its adjacent areas. It is a
possibility that India may deploy IBG-4 at the Suratgarh, Indian side of the border to target Bahawalpur and its adjacent areas. Indian Army can deploy IBG-5 at Bikaner to launch an attack on Rahim Yar Khan and its contiguous areas. IBG-6 may commence its operations from Jaisalmer to target areas in Sindh near Indian border. IBG-7 can carry out its assault from Barmer Indian side to Mir Pur Khas or its adjacent areas and IBG-8 may commence its attack from Palanpur Indian side of the border to target Pakistani Hyderabad and its adjacent areas. Possible target areas shown in map seem to be geographically suitable for the Cold Start Doctrine (CSD) based incursions, because plains and deserts terrain support the tank warfare.

Figure 2:
Indian Military’s Cold Start Doctrine (CSD) is still in formative phase. It is essential to assess the Indian Military capabilities for the implementation of the Indian Military’s Cold Start Doctrine.

3. Indian Military’s Capabilities for the Implementation of Cold Start Doctrine

“We plan on adversaries’ capabilities, not intentions.”

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General Ashfaq Parvez Kayani COAS- Pakistan Army

An assessment of the enemy’s capabilities helps to analyse the intentions of the adversary and its future plans. Without knowing enemy’s capabilities, it is difficult to meet future challenges. India is on course to develop capabilities to implement its new war doctrine. India has allocated $31.71 billion for the defense budget in 2010. Increase in budget means more acquisition of weapons and equipments. Such allocation of money will bring modernization at rapid pace in the Indian Military. According to the India Strategic Defence magazine, Indian Military will spend around US$ 200 billion on defence acquisitions over the next 12 years to replace its outdated Soviet-vintage inventory. Half of this funding will be spent on the acquisition and development of Indian Air Force (IAF). India has already been on course to bring modernisation in its military machine. According to Stockholm International Peace Research Institute (SIPRI), India has become world’s second largest arms purchaser during last five years. India’s imports of arms went as high as seven per cent of the world’s arms exports. From 2005 to 2009, India’s annual arms imports doubled from $1.04 billion in 2005 to $2.1 billion 2009.

It is imperative for Indian Military to acquire latest fighter jets along with fast mobility latest MBTs. Because Indian Military’s Cold Start Doctrine (CSD) based operations would require mechanized armour and latest fighter jets to carry out swift and quick operations with lightning speed. India in last five years has added 82 Sukhoi-30 MKI fighters and 300 T-90 tanks from Russia, and A-50/Phalcon Airborne Early Warning (AEW) system from Israel and Russia. By 2015, India would be able to have 272 SU-30 fighter Jets in its air force and 1000 T-90 tanks.


Ibid.

Josy Joseph, “Rs 15,000 crore Sukhoi deal cleared”, Times of India,
by 2020.\textsuperscript{14} Indian Military in next five to ten years will be able to fill the gaps in its military machine by adding more offensive punch and massive firepower capabilities. It could be assumed that by 2020, India would be able to fulfill its deficiencies in its air force and army and give confidence to Indian Military to operationalise its Cold Start Doctrine (CSD) against Pakistan.

Induction of AEW system will further improve India’s reconnaissance, surveillance and real time intelligence gathering capabilities. It will also enhance India’s air defense capabilities. As it has been described that Indian Military’s Cold Start Doctrine (CSD) will require swift day and night operations, the offensive strikes will need active support by advanced C4I (Command, Control, Communications, Computers and Intelligence) network and systems.\textsuperscript{15} Phalcon AEW system has the capability to carry out surveillance at about 400 km range under all-weather situation and to lock on to 60 targets simultaneously.\textsuperscript{16} It will enhance Indian Air Force’s operational capabilities.

To operationalise Indian Military’s Cold Start Doctrine (CSD), India has added many new technologically advanced systems to its arsenal to meet the technological shortfall of its armed forces. Space satellites are vital for the C4I systems. India has recently acquired an Israeli RISAT-2 that has day and night viewing capability. This satellite will keep a watch over Pakistan even when the landmass is covered by a thick cloud cover. This capability puts the satellite in the class of what are often called spy satellites. Indian Space Research Organisation (ISRO) has been developing its very own RadarSat at the cost of almost 400 million Indian rupees, that would be operational in 2009-10 and it would give India an edge in the space.\textsuperscript{17}

India is also upgrading its outdated aircraft and tanks. In this regard, Israel has played an important role in upgrading Russian supplied Mig-21 Bison aircrafts and T-72 tanks in the Indian inventory, particularly to make the tanks capable of conducting night operations.\textsuperscript{18} Such developments will definitely improve Indian Air Force (IAF) and its armour division’s capabilities to carry out operations at any time.

IAF is also looking to acquire the Israeli Harpy missile, used for neutralising enemy radars, which could be a significant force multiplier. It can be perilous for Pakistan’s detection and information capabilities. In worst case scenario, if India neutralises Pakistan’s

\begin{itemize}
\item \textsuperscript{14} “Indian Army wants to add another 1,000 T-90S Tanks by 2020”, \textit{Defense Industry Daily}, http://www.defenseindustrydaily.com/indian-army-wants-to-add-another-1000-t90s-tanks-by-2020-updated-02697/, (accessed on 31\textsuperscript{st} July, 2010).
\item \textsuperscript{15} Dr. Subhash Kapila, “Indian Army validates its Cold Start War Doctrine”, \textit{South Asian Analysis Group}, http://www.saag.org/common/images/Title2.jpg” width=648, (accessed on 14\textsuperscript{th} November, 2009).
\item \textsuperscript{16} “Indian Air Force gets AWACS Plane”, \textit{BBC News}, http://news.bbc.co.uk/2/hi/south_asia/8072143.stm, (accessed on 14\textsuperscript{th} October, 2009).
\item \textsuperscript{17} Pallava Bagla, “India acquires Israeli Spy Satellite”, \textit{NDTV}, http://www.ndtv.com/convergence/ndtv/style/style_story.css, (accessed on 19\textsuperscript{th} November, 2009).
\item \textsuperscript{18} Harsh V. Pant, “India-Israel Partnership: Convergence and Constraints”, \textit{MERIA Journal}, Volume No. 8, No. 4, Article 6, December 2004.
\end{itemize}
radars then it could be a precarious situation for Pakistan to defend its borders from surprise Indian air attacks.

In addition to that India has already inducted Green Pine fire control Radars from Israel and now it is in negotiations to get the Arrow-II (ABM) anti-ballistic missile defense system that can detect and track incoming missiles from up to 500 km away.\(^\text{19}\) It will give confidence to IAF to launch air strikes on Pakistan, because India will have the confidence that its missile defense shield can defend India from Pakistan’s missiles strike but such a situation would be threatening for the peace and stability of the region.

Pakistan will also go for counter measures; it may bring qualitative and quantitative changes in its ballistic missile inventory to offset Indian BMD system. Another important induction to Indian Military arsenal is of lethal drones which it acquired from Israel. These drones are designed to take out high-value targets like missile sites, radars and even senior enemy personnel.\(^\text{20}\) Such drones could be used against alleged militants’ training camps in Pakistan or against military high command to gain maximum advantage before any military operation under Indian Military’s Cold Start Doctrine (CSD).

The level of funds India allocated for the revitalization of military’s capabilities reveals that Indian Military is on route to achieve the potential to launch Indian Military’s Cold Start Doctrine (CSD) based offensive strikes against Pakistan. Induction of latest aircrafts and AEW will enhance its air mobility, firepower, reconnaissance and surveillance capabilities. Such a capability is essential for the quick and swift operations as envisaged by the Indian Military’s Cold Start Doctrine (CSD).

India has also brought change in its military’s night time operations’ capabilities, such a shift would shore up Indian Military’s capacity to carry out day and night operations without any time impediment. The launch of RISAT-2 satellite will give India the capability to closely track down military activities in Pakistan.

India can use this technology to keep check on the movement and deployment of the Pakistan Military assets. India’s acquisition of Electronic Warfare (EW) systems, Unmanned Aerial vehicles (UAVs), etc will enhance its capabilities for reconnaissance, information gathering, communication, and coordination between its armed forces, which is an essential part and prerequisite for the implementation of the Indian Military’s Cold Start Doctrine (CSD). It could be assumed by the rapid modernisation of India that it has achieved capability to some extent to operationalise its CSD against Pakistan but it would take atleast a decade to fully operationalise the Indian Military’s Cold Start Doctrine (CSD). The next part will discuss the Indian Military exercises undertaken to operationalise the Indian Military’s Cold Start Doctrine (CSD) from 2004 to 2010.

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\(^\text{19}\) Ibid.

4. Indian Military Exercises from 2004-2010

Military exercises are essential for the development and augmentation of the armed forces. These exercises facilitate to bring innovation, flexibility and progression in the overall war fighting capabilities of a military. War games also assist a country to test its new warfighting doctrines, strategies or tactics. India has carried out ten military exercises in last six years, to test and validate its Indian Military’s Cold Start Doctrine-(CSD).

Indian Military Exercises from 2004-2010

Figure 3:

4.1. Exercise Divya Astra 2004

In March 2004, India carried out “Exercise Divya Astra” in Rajasthan sector to test its capabilities of launching a pre-emptive strike against Pakistan. India claimed that it has achieved 50-fold increase in the army’s surveillance and neutralisation capabilities over the past two years.²¹

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²¹ Vijay Mohan, “Big Increase in Infantry Firepower: General Vij”, Express India,
First time ever, Indian Military used Long-Range Reconnaissance and Observation System (LORROS) in this exercise, which it has bought from Israel. LORROS is a high quality, remotely controlled ground based observation system designed for medium and long range surveillance. This kind of a system is good for intelligence gathering and reconnaissance purposes.

This system also has the ability to identify the target at long ranges as Indian Military’s Cold Start Doctrine (CSD) based operations will surely require effective surveillance system to check the deployment of enemy positions and night time fighting capabilities. Indian Army practiced both these capabilities in Exercise Divya Astra.

4.2. Exercise Vajra Shakti 2005

In May 2005, India tested its short duration warfare capabilities in an exercise code named “Vajra Shakti”. It was a 10 day exercise held in the plains of Punjab. Main feature of this exercise was the use of satellite imaging facilities. First time, a Force Multiplication Command Post (FMCP) was set up to integrate real-time flow of information as a principal tool for decision making and NCW capabilities in the Indian Army.\(^{23}\)

In this military exercise, India brought flexibility in the operational concept of its holding corps. These holding corps were designated as Pivot Corps and assigned to initiate offensive if required in the battlefield. According to the then Chief of Army Staff, Gen J J Singh, “They (Pivot Corps) have assigned roles, which are offensive as well as defensive and the doctrine does not spell them out in detail. The decision making has been left to theatre commanders, depending upon their assessment and evaluation of the situation.”\(^{24}\)

According to Brigadier Sanjeev Madhok, a Mechanized Brigade Commander in Indian Army, these assets can be mobilised and deployed much faster as they are stationed closer to their designated area of operations than the strike corps which are based in places as far off as Mathura and Bhopal.\(^{25}\) India in this exercise reoriented its holding corps and added offensive element in it.

Such a tactical change in the force structure will benefit Indian Army’s operations under the Indian Military’s Cold Start Doctrine (CSD). These Pivot Corps could be used to lead an offensive strike to engage the enemy in one area. This will facilitate the strike corps to open a new front elsewhere. This change of strategy will give element of surprise and tactical advantage to the Indian armed forces.

4.3. Exercise Desert Strike 2005

In November 2005, India tested its war fighting capabilities in desert area of Rajasthan. This exercise was code


\(^{24}\) Ibid.

\(^{25}\) Ibid.
named “Desert Strike”, in which more than 20,000 Indian Army personnel participated. Indian Army deployed Russian T-90 tanks, mechanized combat vehicles in tandem with force multipliers, like the Israeli Searcher Heron unmanned aerial vehicles, Air Defence Missile System and other electronic sensors and surveillance systems at Pokhran Field Firing Range in the Western Indian state of Rajasthan. Indian authorities claimed to achieve synergy between air and ground forces.

IAF fighter jets and helicopters coordinated with their counterparts on ground.\(^{26}\) This exercise had two main goals: first to test new inductions and secondly to test the Indian Army’s ability to work mutually with air force in joint operations. This mutual strike capability will enhance Indian Army’s capabilities to launch proactive military operations under the Indian Military’s Cold Start Doctrine (CSD).

Without coordination and synergy it would be difficult for India to carry out offensive operations under the Indian Military’s Cold Start Doctrine (CSD). This exercise was another step towards operationalisation of the Indian Military’s Cold Start Doctrine (CSD).

4.4. Exercise Sanghe Shakti 2006

In May 2006, India carried out another exercise code named “Sanghe Shakti” at Sidhwan Khas, near Philar in the plains of Punjab. In this exercise, 20,000 Indian troops with nearly 2000 to 2500 vehicles, from II-Corps (Strike Corps) participated. In this exercise the AN-32 aircraft dropped an entire parachute battalion while the IL-76 dropped the equipment in the dark flying in formation without lights.\(^{27}\)

The aim envisaged in this exercise was to draw out enemy reserves in the general area and to degrade the counter offensive capabilities of the enemy. However, it has been discussed earlier that the Indian Military’s Cold Start Doctrine (CSD) would require day and night swift and quick operations. In this exercise, India practiced its night time fighting capabilities. This exercise enhanced Indian Military’s capabilities to launch offensive operations under the Indian Military’s Cold Start Doctrine (CSD) without any time barrier.

4.5. Exercise Ashwamedh 2007

In April 2007, India tested its Cold Start Doctrine (CSD) and Network Centric Warfare (NCW) capabilities in an exercise code named “Ashwamedh”, in a 130 km corridor between Suratgarh in Rajasthan and Bhatinda in Punjab. An entire Strike Corps (I-Corps) from Mathura was moved to Rajasthan. IAF and Special Forces also took part to test Indian military’s capabilities to strike hard and penetrate deep into enemy territory. The strike formations of the Indian Army were equipped with T-90 MBT, heavy artillery, helicopters, UAVs and infantry combat vehicles.\(^{28}\)


\(^{28}\) “Ashwamedh: Indian Army Military Exercises Test Readiness against WMD Warfare”, India-Defence, http://www.india-
Military’s Cold Start Doctrine (CSD) based operations would require an effective air force along with highly mobile armoured, artillery and infantry divisions to carry out swift operations without any time restriction.

In this exercise, India practiced its air force’s capabilities along with Special Forces to carry out surgical strikes inside Pakistan. Additionally, India practiced its capabilities to fight a war under Nuclear, Biological and Chemical (NBC) environment. That exercise gave confidence to Indian military to launch offensive strikes without fearing any NBC attack.

4.6. Exercise Shatrunash 2007

In May 2007, India commenced “Exercise Shatrunash” in Ludhiana, Punjab. India tested the battle readiness of its strike formations. Coordination between Indian Army and Indian Air Force was also tested. Another aim of the exercise was to examine India’s new weapon systems and surveillance equipments in combat like situation, to practice troops for their operational tasks and to have swift military operations in quick time wars. In this military exercise, more than 15,000 troops, 150 MBT, gunship helicopters and fighter jets took part. The numbers of troops were kept same in this exercise, as were supposed to be in Indian Military’s Cold Start Doctrine (CSD) operations. This also indicates that Indian Army is practicing IBGs, which would be a division-sized group. Indian Army’s division has almost 15,000 to 20,000 thousands troops. Troops level used in this exercise signify that Indian Army is on course to operationalise its Indian Military’s Cold Start Doctrine (CSD).

Other components necessary for the Indian Military’s Cold Start Doctrine (CSD) based operations like coordination and integration between Indian Army and Air Force, latest weapon & equipment and NCW capabilities were also tested in this particular exercise. Such capabilities would enhance Indian Army’s operational capacity to fight swift and quick limited wars.

4.7. Exercise Brazen Chariots 2008

In 2008, India carried out an exercise code named “Exercise Brazen Chariots” in Thar Desert, 100 km from Pakistan border. Main features of the exercise were to display flexibility, diversity and reach of IAF in future wars. In this Exercise, Indian military displayed firepower of T-90 MBT, air defence missiles, special heliborne operations, fire of multi barrel launcher batteries, heli drop, and deployment and firing of mortar battery. Almost 37,000 troops from the Bhopal based XXI-Corps took part in this war game. This exercise also witnessed Indian Army’s Southern Command and IAF’s South Western Air Command joining hands to demonstrate and practice synergised air-land operations in a mechanized and

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defence.com/reports/3005, (accessed on 12th February, 2010).


30 Ibid.

digitalised environment, with the basic focus being on launching swift offensive multiple thrusts to strike deep behind enemy lines.\(^{32}\)

This exercise helped Indian Army to improve its overall offensive capabilities to carry out operations under the Indian Military’s Cold Start Doctrine (CSD). Indian Army will require mechanized formations to enter Pakistan with swift and quick mobilisation. In this exercise, Indian military tested its capabilities to carry out operations by its mechanized forces along with close air support.

All these capabilities are essential for the Indian Military’s Cold Start Doctrine (CSD) based operations. Another element which Indian military tested in this exercise was quick mobilisation and operations behind the enemy lines. These types of maneuvers depict that India may be heading towards the options of heli borne commando raids or surgical strikes against Pakistan.

4.8. Exercise Hind Shakti 2009

In April 2009, India tested its military capabilities in an exercise code named “Hind Shakti”. Former Indian Army Chief General Deepak Kapoor claimed that Hind Shakti exercise is another step in army’s continued venture to fine tune its Cold Start Doctrine (CSD).\(^{33}\) This was a 72-hour training exercise held in the plains of Punjab. Indian Army’s Ambala based II-Corps (Strike Corps) practiced offensive maneuvers and a blitzkrieg-type armoured incursion by Mechanized and Re-organised Plains Infantry Division, emphasising rapid penetration into enemy territory with close support of the IAF.\(^{34}\)

Corps units were also tested for their ability to undertake and sustain operational maneuvers against intensive electronic and information warfare. Main features of this exercise were use of satellite imagery, helicopter borne surveillance systems, UAVs and ground-based surveillance resources such as LORROS, Battlefield Surveillance Radars (BFSRs) and Weapon Locating Radars (WLRs).\(^{35}\)

In this exercise, India practiced latest weapons and equipments with the help of NCW and EW systems. This particular exercise was significant for India because of use of latest technologies which will enable India to operationalise its Cold Start Doctrine (CSD) based operations with more precision and accuracy. WLRs, BFSRs and other modern surveillance and reconnaissance equipment will enhance Indian military’s effectiveness to carry out synergised operations in quick time limited wars.

4.9. Exercise Vayu Shakti 2010

In February 2010, India carried out another exercise, code named “Vayu Shakti”. In this war game, IAF practiced its precision strike capabilities during day and night operations. IAF carried out a massive fire power blitzkrieg, using its frontline aircraft such as SU-30 MKI, Mirage-2000, MIG 27 and MIG

\(^{32}\) Ibid.

\(^{34}\) Ibid.
\(^{35}\) Ibid.
29, at the Pokhran ranges in Rajasthan. In the two-hour event, 100 combat, reconnaissance, transport and rotary wing aircraft took part in the massive Fire Power Demonstration (FPD).

IL-76 heavy lift and AN-32 medium lift transport planes also flew over the venue for the day-and-night air drop for specialised operations. For the FPD, mock radar sites, tanks, marshalling yards, terrorist camps, runway, BMP infantry fighting vehicles, blast pens and convoys are among a few of the targets placed on the range. IAF’s Special Forces were also Para-dropped, which carried out drills to neutralise a mock terrorist camp.

To exhibit coordination among the Services, Army’s Special Forces and Navy’s Marine Commandos also took part in the exercise. This exercise has proven the effectiveness of the Indian military to carry out joint operations. In this exercise, IAF practiced its fire power and its capabilities to work closely with army in future short duration conflicts. In these exercises, Indian armed forces practiced quick and swift mobilisation capabilities for the Cold Start Doctrine (CSD) based incursions.

4.10. Exercise Yodha Shakti 2010

In May 2010, Indian Army carried out a four week long exercise “Yodha Shakti” in the deserts of Rajasthan, to test its capabilities to impose maximum damage on enemy targets in shortest possible time. Exercise Yodha Shakti is another step towards the operationalisation of the Indian Military’s Cold Start Doctrine (CSD). In this war game, India tested the co-ordination between the Army and the Air Force.

The induction of night-vision capabilities in the mechanized forces enables a 24/7 operational capability. All these capabilities are essential element of the Indian Military’s Cold Start Doctrine (CSD). Approximately 12,000 to 14,000 troops took part in the latest military exercise. These troops were pulled out from the Mathura-based I-Corps (Strike Corps), the armoured formations at Patiala, Hissar and Jhansi.

The war game also practiced heliborne operations behind the ‘enemy’ lines, airborne drop by paratroopers and multiple maneuvers by the mechanized forces and attack helicopters in the operational depth with intense synergy and integration between the Indian Army and Air Force. The IAF displayed its capabilities to use the aerial routes to send supplies to an armoured division deep inside enemy territory. Such a capability is essential for conducting operations far inside enemy land. One of the concepts that the Indian Army is putting in place is the doctrine of Cold

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37 Ibid.
38 Ibid.

Main focus of the exercise was on the coordination between army and air force. This is a key element for the offensive operations. As it has been discussed earlier that Indian Military’s Cold Start Doctrine (CSD) based operations will be carried out in day and night with quick and swift mobilisation, Indian Army in this exercise practiced night vision capabilities to launch offensive strikes without any delay or time barrier.

That exercise also enhanced Indian military’s capacity to carry out Indian Military’s Cold Start Doctrine (CSD) based operations against Pakistan. Quick mobilisation and supply of logistics behind the enemy lines operations were also practiced to ensure unhindered immediate and prompt attack on Pakistan.

5. Main Components used in Indian Military Exercises from 2004-2010

After analyzing Indian military exercises in detail, it can be argued that India has tested and experimented synergy and integration among its armed forces for quick and robust operations. It has also practiced day and night fighting capabilities, surveillance and reconnaissance capabilities, behind the enemy lines operations, air mobility and logistics, mechanised armour, artillery and infantry.

India has further exercised NBC warfare capabilities, NCW and EW capabilities. Navy’s marine commandos, Special Forces operations, para-dropped, Strikes Corps, air fire power, and Pivot Corps were also tested in these exercises. All these elements are essential for the offensive, quick and swift operations that are a basic need of Indian Military’s Cold Start Doctrine (CSD) based operations.
Figure 4:

Components practiced in Indian Military Exercises (2004-2010)


Indian Su-30MKI Combat Aircraft practicing Swift & Quick Operations
Indian AN-32 Aircraft drops an Entire Parachute Battalion

Indian MBT practicing quick and robust operations
Long-Range Reconnaissance Observation Systems (LORROS)

Indian Heavy-Lift Helicopter supplying logistics
Indian Soldiers practicing NBC Warfare Capabilities

Indian Air Force practicing Night-Time Operations
6. Evaluation of Indian Military Exercises

Main focus of these exercises was to operationalise Indian Military’s Cold Start Doctrine (CSD) vis-à-vis Pakistan, because all these exercises were carried out on the Punjab plains and Rajasthan Desert near the Pakistan border. A few things were common in all of these exercises. First, almost all war games emphasised on synergy and close coordination between armed forces. Secondly, offensive, quick and robust operations were practiced in these military exercises. Thirdly, day and night capabilities were displayed. Fourthly, Indian military tested its NCW capabilities, latest weapons and equipments, Airborne Warning and Control System (AWACS), UAVs, Satellite imagery, Special Forces, blitzkrieg-type armoured incursion by Mechanized and Re-organised Plains Infantry Division, emphasising rapid penetration into enemy territory. Indian military has improved its operational capabilities after the inception of Indian Military’s Cold Start Doctrine (CSD) in 2004. Indian surveillance and reconnaissance capabilities have been improved in last six years. It has been practicing these capabilities in almost all military exercises since 2004. India has also practiced its night time war fighting capabilities. Its aircraft and tanks are now capable to carry out operations in the dark. This capability will remove Indian military’s caveat to launch night time operations against Pakistan. Indian military has also improved its NCW and EW capabilities.

These capabilities are essential for an effective command and control system. Additionally, in almost all exercises Indian Army has tested elements from its strike corps. India has improved its overall capabilities to launch offensive short duration operations against Pakistan. India has also practiced air mobility of its forces, weapons, equipments and logistics. These exercises will perk up Indian operational capabilities to launch offensive operations behind the enemy lines and with unhindered supply of logistics, weapons, equipments and reinforcement. IAF has also participated in every exercise since 2004.

IAF practiced its capabilities to carry out combined operations with the Indian Army. It could be assessed from last 6 years that IAF and Army may have developed synergy to some extent for joint operations. Such a development is essential for any offensive operations against Pakistan under the Indian Military’s Cold Start Doctrine (CSD). But it is difficult to ascertain that whether India has fully achieved required capabilities to execute its Indian Military’s Cold Start Doctrine (CSD) on Pakistan. Because military exercises are totally different from the real wars. Sometime it becomes difficult to assess the enemy response from small level exercises.

Moreover, coordination and integrated operations are essential for the implementation of the Indian Military’s Cold Start Doctrine (CSD). Though, India practiced these elements in its military exercises but full coordination and integration among the armed forces is difficult proportion to achieve. Without proper coordination and understanding between the Indian armed forces, Indian Military’s Cold Start Doctrine (CSD) will be impossible to
Indian Military’s Cold Start Doctrine (CSD) is still in experimental phase. But Indian Army is rapidly heading towards its operationalisation. It requires more time to practice and operationalise its Cold Start Doctrine (CSD). The next section will explore the level of preparedness of Indian armed forces for the execution of the Indian Military’s Cold Start Doctrine (CSD).

7. Critical appraisal of the Indian Military’s Cold Start Doctrine: Limitations

Indian Military’s Cold Start Doctrine (CSD) is still in the experimental phase and it has been under discussion in Indian strategic circles. It is facing considerable organizational and resource barriers towards its full implementation. But India is working hard to materialise this concept. In this section of the study will focus on some limitations in the implementation of the Indian Military’s Cold Start Doctrine (CSD).

7.1. Infrastructure Barriers for IBGs at the Border

Under Indian Military’s Cold Start Doctrine (CSD), India will place eight IBGs close to the border with Pakistan to save mobilisation time. CSD is based on offensive operations against Pakistan which will require re-location of the strike formations headquarters, armoured divisions and armoured brigades from their existing locations in Central India and in depth in Punjab to forward locations near to the border for quick response to any alleged terrorist attack on India.

All such formations are required to move forward to the general line of Jammu, Amritsar, Moga, Barmer, Jaisalmer, Bikaner, Suratgarh and Palanpur from their present locations in the interior, to execute Indian Military’s Cold Start Doctrine (CSD). But infrastructural barriers play a critical role in materializing Indian Military’s Cold Start Doctrine (CSD).

It will require massive allocation of funds and time to build new cantonments and facilities for the division-sized IBGs at the forward locations near Pakistan border. So far, there has been no progress in this regard. Therefore, it will be very difficult for Indian Army to launch offensive operations without removing infrastructure barriers.

7.2. Uncertainty in Limited war

Other major caveat in the way of operational Indian Military’s Cold Start Doctrine (CSD) is the uncertainty of limited war. It is difficult to ascertain that any limited attack from India can remain limited. Attack under Indian Military’s Cold Start Doctrine (CSD) can provoke massive retaliation from Pakistan, and then it would be difficult for India to achieve its goals. Doctrinal innovation of Indian military will never eliminate the nuclear shadow. In the conflict of Kargil 1999, 2001-02 military standoff and Mumbai attacks of 2008; Indian decision makers were cognizant of Pakistan’s nuclear deterrent.

It can be imprudent for the Indian strategic thinkers to launch a limited war against Pakistan under the Indian Military’s Cold Start Doctrine (CSD). Pakistan’s response can be difficult to judge. Would Pakistan remain succinct
to Indian aggression or it will escalate the conflict? This question will remain unanswered.

Moreover, will it be possible for India to achieve its goals after waging a limited war against Pakistan? This question has depth and also highlights the caveat in the Indian Military’s Cold Start Doctrine (CSD). It is hard to assess Pakistan’s response in a limited war. Pakistan cannot remain idle to any aggression from India; it would definitely respond back and defend with its full conventional capability. Therefore, unpredictability of limited war, the threat of escalation and mutual assured destruction will make it difficult for Indian policy makers to go for any misadventure against Pakistan.

7.3. Shortage in Military Weapons and Equipments

Other major hurdle in the implementation of Indian Military’s Cold Start Doctrine (CSD) is the inadequacies in the procurement of Indian defense related acquisitions. Although India is spending billions of dollars to overcome its military deficiencies but despite that it is facing shortage in military weaponry and equipment. To operationalise Indian Military’s Cold Start Doctrine (CSD) effectively, Indian Military require swift, quick and mobile tanks.

India is largely depended on Russia for its MBT T-90s. On the other hand, its own MBT Vijayant and the ageing T-55s are still in the Indian Army’s inventory despite their obsolescence. The indigenously developed Arjun MBT has not quite met the Army’s expectations due to recurring technological problems and cost over-runs. India will have to rely on Russia for the supply of T-90s and their spare parts. Such dependence would continue in future. It is expected that India would take at least a decade to replace its ageing tanks with Russian T-90s to overcome this deficiency.

According to the Indian Comptroller Auditor General (CAG), “Indian Air Force fares no better; from a 45-squadron force it is down to 32 squadrons. It is deficient of 136 fighter jets.”

India is on course to add latest SU-30s in its Air Force, by 2015 India would have at least 278 SU-30s. It is believed that, this limitation is just for the time being; India would overcome this deficiency in next five years.

It has been reiterated earlier that Indian Military’s Cold Start Doctrine (CSD) operations will be based on speed, robustness and fast mobility, but in this regard India is lacking adequate mobility and logistical capability to implement Indian Military’s Cold Start Doctrine (CSD). It is estimated that only thirty-five percent of the Army is equipped to move about India, and an even smaller portion possesses the mobility to mount cross-border operations. Similarly, one assessment suggests that the armed forces possess less than 15% of the helicopter airlift capability.

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45 Ibid.
47 Walter C. Ladwig, “An Overview and Assessment of the Indian Army’s Cold Start
Swift and quick mobility of men and equipment is essential element of Indian Military’s Cold Start Doctrine (CSD). India is facing this problem because Indian helicopter abilities are seriously constrained, given the dependence on old Mi-24 choppers. For heavy lifting too, India only has old Mi-17s and Mi-26s. Last year, the Indian Army did put out a request for induction of 12 heavy lift helicopters, including the latest Mi-17s and Boeing Chinooks but the process is likely to take several years before they are inducted. Meanwhile, the Army may have to depend on indigenously made Dhruv choppers which are not world class.\footnote{Ninad D. Sheth, “India’s Ragtag Army”, Open the Magazine, http://www.openthemagazine.com/print/4736, (accessed on 12\textsuperscript{th} April, 2010).}

India would have to address the issues of limited supplies of spare parts, primitive logistical networks, and inadequate maintenance facilities which could obstruct offensive operations against Pakistan. Such discrepancies in the Indian military can hamper its operations under Indian Military’s Cold Start Doctrine (CSD). India will require at least a decade to overcome such shortfalls in its military and this will give enough time to Pakistan to improve its existing defenses against any incursion. To fill this gap, India will require a lot of investment, time and resources.

\textbf{7.4. Shorter Lines of Communication: Advantage for Pakistan}

Due to lack of strategic depth, most of the Pakistan Military’s deployment is near to the border with India. This lack of strategic depth will be an asset for it in case of any war; already stationed Pakistan Army near the border will take comparatively less time than India to deploy its forces at border.

According to Brigadier (Retd) Naeem Salik:

\begin{quote}
There are serious flaws in the concept [CSD] because Pakistani forces would still be able to move up and counter these offensive actions well before the Indian offensive formations arrive on the scene. Irrespective of whether this is a sound strategic concept or not, this will be viewed as offensive and provocative by the Pakistan Army and will make the risk of surprise attacks perennial, adding to the tensions and mutual suspicions.\footnote{Naeem Salik, The Genesis of South Asian Nuclear Deterrence: Pakistan’s Perspective, (New York: Oxford University Press, 2009), p. 246.}
\end{quote}

Moreover, fighting on the defensive, Pakistan will also have the advantage of shorter lines of communication as well as a network of linear obstacles and prepared fighting positions designed to blunt India’s advance. In such conditions Pakistan will deny India of any significant objective. Pakistani forces would exploit the advantage of being in defensive. It would give India strong resistance against already deployed Pakistani troops. Element of surprise will vanish and India can face tough time against Pakistan.

\textbf{7.5. Nuclear Dimension}

\begin{quote}
Deterrence is a state of mind brought about by the existence of a credible
\end{quote}
Nuclear weapons played an important role in stabilising the deterrence in South Asia. Pakistan and India fought many wars but sooner or later they had to come to the negotiating table to settle their lingering issues. Kargil conflict remained limited and it had given a new dimension to the adversarial relationship of Pakistan and India that a limited war can be fought under the nuclear shadow. The latest statement by the former Indian Army Chief Deepak Kapoor that limited war is possible under the nuclear overhang is a continuation of the Indian coercive policy against Pakistan. Still there is lot of debate on this issue whether India would be able to achieve its goals in any limited war against Pakistan or not.

According to former Director General of Military Operations (DGMO) of Indian Army, Lt Gen V.R. Raghavan:

*Limited military success in a limited war has the potential of translating into a national disaster. And when nuclear weapons are factored in, a war, however limited, is a huge strategic liability.*

It would be difficult for India to launch a limited war against Pakistan because of the nuclear dimension. Threat of escalation would always be there. It was nuclear deterrence that de-escalated the conflict between Pakistan and India in 2001-02. In addition to that, credible deterrence requires effective military capability which could impose unacceptable damage on adversary and will to use nuclear weapons. Pakistan has fulfilled these requirements to counter any Indian aggressive attack.

Pakistan Air Force has 630 aircrafts, which include 530 combat aircraft, with 400 operational at any time. Furthermore, it has Mirage-5’s, F-16s, JF 17s for the strike role which can carry nuclear weapons. Manufacture of 150 JF 17 Thunder fighters is underway at the Pakistan Aeronautical Complex Kamra. Pakistan has also placed an order with China for the purchase of 36 JF-10, a Mach 2.3 5th generation multi-role fighter aircraft.

This capability demonstrates Pakistan’s deterrent capabilities to counter any Indian assault. Pakistan has credible ballistic missile capabilities for an effective deterrence against India. The ballistic missile inventory of the Army is substantial. It comprises Ghauri I, Ghauri II and Shaheen II medium range and short range Hatf I- B, Abdali, Ghaznavi, Shaheen I and M -11 missiles.

All the ballistic missiles can carry nuclear warheads. Nuclear and conventional weapon capable Babur Cruise missile is the new addition to Pakistan’s strategic weapon inventory. It could be reckless for the Indian Military strategists to launch any attack on Pakistan because Pakistan has the

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53 Ibid.
capability and credibility to target major Indian cities with its missiles and aircrafts.

Nuclear dimension will always be there in South Asia. Any limited war under the Indian Military’s Cold Start Doctrine (CSD) may invoke a nuclear response from Pakistan. Because no war can remain limited for a longer period of time and eventually it can transform into a total war. Pakistan will respond with full resources, and if it fails to contain the Indians with its conventional capabilities, then nuclear factor will definitely come into play.

8. Pakistan’s Response to Indian Military’s Cold Start Doctrine

Cold Start is an aggressive doctrine aimed at Pakistan, such a doctrine against a nuclear weapon state will put the region into quagmire of volatility and dismay. Threat of deterrence failure would increase if India operationalizes its Indian Military’s Cold Start Doctrine (CSD). The analyses of the level of funding allocated for the modernization of Indian armed forces and its endeavor to overcome its deficiencies show that India may operationalise Indian Military’s Cold Start Doctrine (CSD) in next five to ten years.

Pakistan has responded strongly to the Indian Army Chief’s rhetoric of facing Pakistan and China at the same time. In response to Indian Army Chief’s statement, Pakistan’s Joint Chiefs of Staff Committee (JCSC) Chairman General Tariq Majid said, “…leave alone China, General Deepak Kapoor knows very well what the Indian Army cannot and the Pakistan Army can pull off militarily… Indian Army Chief could not be so outlandish in strategic postulations to fix India on a self-destruct mechanism.”

Pakistan’s rejection of Indian Military’s Cold Start Doctrine (CSD) is based on its military capabilities and its strategy of offensive defence to counter such an aggressive attack.

Pakistan has an active force of 620,000 men, with 528000 reservists, and 1,50,000 Para-military troops. Pakistan armed forces are the seventh largest in the world. Pakistan’s military strategy is based on the geographical compulsions. Due to the lack of strategic depth, Pakistan Military planners have to compete with this dilemma. Most of the population and industrial centers are close to the border with India. Lahore, the most important city and Karachi the port city and financial hub are at the distance of approximately 20 km and 160 km respectively from the Indian border making them vulnerable to Indian penetration.

General Mirza Aslam Beg is accredited with the offensive defence concept, which was demonstrated in the exercise Zarb-e-Momin (Blow of the Believer), held in 1989. It involved almost three corps, two armoured brigades, two 

artillery divisions, one air defense division and the Pakistan Air Force. General Beg said, “the exercise...made a radical departure from stereotype maneuvers and self defeating concept of holding formations. Now our armed forces are fully tuned to fighting an offensive defence, with well tested concepts and strategies, even in an environment where they may be outnumbered.” This concept provides quick preemptive strikes once a war begins in order to disrupt an enemy advance and inflict heavy damages. In addition, such actions are designed to gain strategically important enemy areas, which could be used as a bargaining chip after the ceasefire. To implement this concept, two strike corps backed by one defensive corps are to be used. It could be analysed that the concept of offensive defense is still there in Pakistan Army.

From 1989, it has carried out many exercises to test and validate this concept. Recent war games by Pakistan Army and Pakistan Air Force are also step forward to articulate their abilities and capabilities to contradict any intrusion from air or land. To counter threats from India, Pakistan conducted Azm-I-Noh (New Resolve) military exercises and these are Pakistan biggest drills in 20 years.

These exercises involved almost 50,000 troops. These war games were carried out in Punjab and Sindh near the border with India. These military exercises were a display of Pakistan Army’s preparedness to face the challenges in future. Pakistan Army Chief General Ashfaq Parvez Kayani claimed that, “Pakistan Army cannot be caught unaware and is capable of responding to the challenge of Indian Military’s Cold Start Doctrine (CSD)...our Army is fully prepared to give a “befitting response” to any “misadventure” from the eastern border.”

Pakistan air defense system can provide timely information about the movement of Indian aircrafts and its army. There are two air defense commands in Pakistan. The PAF Air Defence Command and the Army Air Defence Command. The task of the PAF Air Defence Command is to defend and shield Pakistan’s air space and the Army Air Defence Command is assigned to defend selected Army formations during the war. Pakistan Air Force has an advanced air defence system.

Its main components are high and low looking mobile radars, integrated radar detection systems designed for high and low level interceptions using fighter aircraft, surface to air missiles (SAMs), radar operated automatic firing anti-aircraft guns and shoulder fired infra-red SAM’s. At the Command and Control Centres, air defence controllers and their commanders maintain round the clock vigil scanning the air space for possible air intruders. After detection and identification of intruder, jet fighters are

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scrambled within minutes and directed to intercept or destroy it as necessary.\textsuperscript{62}

In recent times, Pakistan has inducted Spada 2000 air defense system to the Pakistan Air Force. The deal for 10 batteries was worth $656.56 million over five years. Spada 2000 has 60 kilometer range radar and two firing sections, each containing two missile launchers with six Aspide 2000 missiles each. The missiles have an intercept range of more than 20 kilometers.\textsuperscript{63} This system has enhanced Pakistan’s air defense capabilities and it can counter any aggressive air attack by the enemy. Pakistan also produces unmanned aerial vehicles (UAVs) for surveillance and reconnaissance purposes. The Pakistan Air Force has two UAV squadrons and is looking to build up to six.\textsuperscript{64} Pakistan can use such UAVs at the sensitive areas near the border with India to keep check on any movement by the Indian forces.

This capability will provide Pakistan with more space and time to counter Indian Military’s Cold Start Doctrine (CSD). In 2009, Pakistan has inducted Saab-2000 Airborne Early Warning and Control (AEW&C) Aircraft into its fleet. This system has enabled the PAF to detect all aircraft taking off from and landing at all forward Indian airbases adjacent to Pakistan and also to identify the type of aircraft, their weapons systems, vector and altitude. In addition to that, the radar capabilities and range of the system enable the operator to receive an early warning in case of pre-emptive attacks from across the border.\textsuperscript{65}

PAF would get three more AEW&C aircraft in 2010 under $866 million deal. This deal will make air defence more effective and bring about a major change in its operational concept and employment. Pakistan Military used its intelligence, surveillance and reconnaissance assets i.e. UAVs, aerial imageries and early warnings in the Azm-I-Noh exercise to have transparency in the battlefield. Strategic surprise is the essence of Indian Military’s Cold Start Doctrine (CSD). The prior information of the enemy movement will offset Indian Military’s element of surprise and its proactive maneuvers. It will also help field commanders of the Pakistan Army to take decisions accordingly with changing situation on ground. These types of capabilities can hamper Indian offensive against Pakistan. Pakistan Army and Pakistan Air Force practiced these components of air defense in the recent exercises. These exercises are assertion by the Pakistan military that it has the capability to counter any threat from India.

Main purpose of these exercises was to convey a message to the Indian decision makers that Pakistan has the capability to defend itself from any unprovoked intrusion. PAF conducted “Exercise High Mark” in 2010 to demonstrate its

\textsuperscript{62} Air Marshal (Retd) Ayaz Ahmad Khan, “Indian AWACs threaten Pakistan Air Space”, \textit{Defence Journal},

\textsuperscript{63} Tom Kington, “MBDA Confirms Air Defense System Sale to Pakistan”, \textit{Defense News},

\textsuperscript{64} Noah Shachtman, “Pakistan Expands Unmanned Air Force”, \textit{Wired},

\textsuperscript{65} Iftikhar A. Khan & Yaqoob Malik, “Early Warning Aircraft inducted into PAF”, \textit{The Dawn}, Wednesday, 30\textsuperscript{th} December, 2009.
firepower and capabilities. It has also tested its joint operations with Pakistan Army. In this exercise, Pakistan Air Force provided air cover for ground troops that highlighted the forces’ potency to fight integrated battles to counter Indian Military’s Cold Start Doctrine (CSD) based operations. Such capability is essential to meet future threats from the Eastern border.

Additionally, PAF fighter pilots displayed their abilities to maneuver and hit enemy targets with missiles, bombs and other live ammunition with utmost precision. JF-17 Thunder, F-16s, F-7 PG Aircraft and helicopters were also used in the display of firepower skills aimed at targeting enemy installations while dodging radars. Force multipliers such as the Saab-2000 Airborne Early Warning and Control (AEW&C) aircraft and air-to-air re-fueller aircraft were also utilised in this exercise. Special features of the military exercises included PAF’s capability to launch a sensor missile and hit a target from 60 kilometres away.66

Midair refueling and air-to-land targeting, using missiles and bombs were also tested. The exercises also included a search-and-relief operation, the use of spy planes, the expeditious supply of heavy apparatus using transport planes and a ground operation backed by the PAF.67 High Mark 2010 exercise was aimed at conducting operations in a near-realistic strategic environment while integrating new inductions and providing role-oriented training to combat and support elements of the PAF.

All of PAF’s main operating bases and forward operating bases participated in the exercises. These exercises show Pakistan’s vigilance and alertness towards defense of the country. The capabilities manifested in these exercises would work as force multipliers. It would help to offset enemy’s strategic surprise and reduce the reaction time for Pakistan Army to respond to any challenge. Still a lot needs to be done to improve the overall capabilities of the armed forces.

Indian Military’s Cold Start Doctrine (CSD) has wide range of implications for South Asia. If Pakistan failed to counter Indian Military’s Cold Start Doctrine (CSD) based assault on its soil then it may reconsider its nuclear policy of recessed deterrence and deploy its strategic assets at high alert status.

Threat of a nuclear war would take the region into its grip. Indian aggressive policies would provoke arms race in the region. It would hamper the economic and social development of the region and poverty, hunger, un-employment and uncertainty will aggravate in both countries. Most importantly Indian Military’s Cold Start Doctrine (CSD) will seriously impede Pakistan’s efforts against War on Terrorism.

Pakistan has deployed a major chunk of its armed forces in Federally Administered Tribal Areas (FATA) and at the Afghan border. But lest of any threat from India, Pakistan would move its forces from Western to Eastern borders. Such a move would hinder Pakistan’s efforts against terrorism and militancy.

67 Ibid.
At present it may not be possible for India to put into practice Indian Military’s Cold Start Doctrine (CSD) against Pakistan due to shortage in military weaponry and equipment but in future acquisition of latest weapons and equipment along with NCW and EW capabilities would enhance Indian Military’s capabilities. It would give confidence to Indian Military to carry out a limited war against Pakistan in the nuclear shadow. To meet any likely intimidation from Indian Military, it is imperative for Pakistan to take some concrete steps to perk up its overall military capabilities to offset any future coercion. The next part will discuss some recommendations for Pakistan to offset Indian Military’s Cold Start Doctrine (CSD) and come up with a strong, viable and effective response.

9. Recommendations for Pakistan

India is on fast track to operationalise its Cold Start Doctrine (CSD). It has been discussed earlier that India would require at least a decade to overcome its deficiencies in military machine. It has carried out 10 major exercises close to the border and inducted latest weapons and equipments. It is constantly improving its surveillance, reconnaissance and electronic warfare capabilities to carry out swift day and night operations against Pakistan. It is necessary for Pakistan to monitor Indian Military development and come up with adequate response.

9.1. Leadership: Military and Political

Pakistan is a democratic country with effectual military force. Its military and political leadership can play a viable role to allay threats to the national security. Political leadership must show a clear direction to the Pakistan armed forces. Political parties of the country must support the ruling government and military in any crisis situation.

To counter Indian Military’s Cold Start Doctrine (CSD), political leadership should be clear in formulating policies. It must have clear and broad vision to face changing security dynamics of the region. Both military and political leadership must develop better coordination and understanding on the issues related to national security of Pakistan. National Command Authority (NCA) is a place where military and political leadership can sit together on issues related to extreme national security. Frequent meetings of NCA can enhance the mutual cooperation between political and military leadership. These meetings can fill the gap between civil-military relations and pave the way for collective politico-military response to any threat from India. Better coordination and understanding between military and political leadership can help Pakistan to overcome its internal and external security threats.

9.2. Regular Military Exercises and Coordination

Inter Services harmony and coordination is necessary in the modern warfare. After the induction of nuclear weapons, wars have become limited, lethal and destructive. In such warfare, it is necessary to have Inter Services synergy and better coordination. Under Indian Military’s Cold Start Doctrine (CSD), India will launch limited, swift, day and night, intense and short duration limited war.
To counter such an offensive, Pakistan must have professional operational capabilities along with better synchronization and harmonization among its armed forces. Pakistan Army and Air Force primarily must focus on joint operations. In recent military exercises (Azm-I-Noh), Pakistan Army and Air Force practiced their capabilities to carry out joint operations. Such exercises play a key role to develop and strengthen coordination and harmony between the armed forces. With the passage of time and changing strategic environment, Pakistan has to introduce new military strategies and doctrines to overcome existing and emerging security challenges. Therefore, the recent military exercises by the Pakistan Army and Air Force is a step forward to mitigate threats from Indian Military’s Cold Start Doctrine (CSD).

9.3. Assertive Role of the Foreign Office

Pakistan’s foreign office must play an assertive role in dealing with India. It should not succumb to Indian pressure. Pakistan foreign office has to draw attention of the international community to Indian Military’s Cold Start Doctrine and other propaganda against Pakistan’s national institutions such as ISI and Army.

Pakistan’s foreign office has to convince international community that it is working hard to bring peace in the region but it is India that is pursuing aggressive doctrines against Pakistan. Pakistan can raise this issue at different international forums including the United Nations (UN), Organisation of Islamic Conference (OIC), Shengai Cooperation Organisation (SCO) and European Union (EU). It is necessary to highlight this issue because any limited war in South Asia between two nuclear powers would be destructive for the regional and global peace and security.

9.4. Technological Innovation in Pakistan Military Machine

Pakistan has strong defense industry. It has to maintain strategic parity with India with fewer resources. Pakistan and China are closely collaborating in the defense field. Joint project for the production and development of the JF-17 Thunder fighters is under way. Both countries are also collaborating in the production, modernisation and maintenance of armoured vehicles including MBT Al-Khalid, self-propelled artillery, armoured personnel carriers and armoured cars.

This collaboration will bring improvement in the mechanized divisions of the Pakistan Army. Therefore, keeping in mind the changing strategic environment and India’s technological advancement, Pakistan has to develop and equip its military with latest weapons and equipment. It has to rely on its indigenous defense industry for the maintenance and development of its military machine.
10. Conclusion

Proponents of the use of conventional force in “a nuclear overhang” are charting a course of dangerous adventurism whose consequences can be both unintended and uncontrollable. 

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Gen Ashfaq Parvez Kayani - COAS-Pakistan

Pakistan’s Army Chief’s statement is based on the reality; the conception of limited war will push the region into further turmoil. The danger of escalation will also increase. India’s strategy aims to achieve surprise and speed in a conventional strike against Pakistan. It overlooks the fact that in a crisis, the nuclear threshold will be uncertain. It would be difficult for India to control the situation if it escalated. It would be a strategic blunder for India if it attacks Pakistan because threshold of any country cannot be just wished away by any aggressive attack. Shorter time and fast mobilisation will enhance the probability of escalation. Indian Military’s Cold Start Doctrine (CSD) in near future cannot be operationalised. But in case if it does, then Pakistan will definitely change its force posture accordingly. Pakistan will change its policy of recessed deterrence to active deterrence. It would install its strategic weapons on hair trigger level; it may also move towards the induction of tactical nuclear warheads to its arsenal. Such a move would be threatening for the region. In addition to that Pakistan will move its forces from Western border to Eastern border in case of any threat from India. It would hamper the global efforts in the War against Terrorism and extremism. It is imperative for the international community including US, European Union and other regional powers to step in and mediate between Pakistan and India and resolve their outstanding issues including Kashmir, Water distribution, Siachen, and Sir Creek. The best option left for both countries is to stick to the dialogue process and try to resolve their lingering issues in an amicable way because use of force or policy of coercion will never resolve differences between Pakistan and India. Such a policy would increase hostilities and rivalries and put the region into quagmire of instability and turmoil. It is imperative for both countries that they should abstain from such aggressive policies and work for the long term peace and stability of the region.

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Annexure:

Glossary

**Cold Start Doctrine (CSD):** It is an Indian military doctrine which calls for offensive defence and is Pakistan specific. Its main features are efficient mobility, surprise attack through IBGs, network centric warfare and shallow territorial gains. Its aim is to cause Pakistan maximum damage without crossing its nuclear threshold.

**Deterrence:** Deterrence is a situation where two actors mutually discourage aggression toward one another, with the outcome that they never have to respond to aggressive action by the other party.

**Nuclear Deterrence:** Nuclear deterrence is a military doctrine, according to which an enemy will be deterred from using nuclear weapons as long as he can be destroyed as a consequence. Nuclear deterrence depends on three major factors, which are Capability, Communication and Credibility.

**Limited War:** A Limited war is a conflict in which the belligerents participating in the war do not expend all of each of the participants’ available resources at their disposal, whether human, industrial, agricultural, military, natural, technological, or otherwise in a specific conflict. This may be to preserve those resources for other purposes, or because it might be more difficult for specific participants to be able to utilize all of an area’s resources rather than part of them. Limited war is an opposite of the concept of total war.

**Nuclear Threshold:** The point in a conflict or war where one of the conflicting parties chooses to use nuclear weapons. For example Pakistan has defined its nuclear threshold. According to which if militarily, economically, domestically and territorial damage is caused which is not acceptable to Pakistan its nuclear threshold would be violated.

**Pivot Corps:** In 2005 Vajra Shakti Exercise, India brought flexibility in its Holding corps. These holding corps were designated as Pivot corps. Pivot corps can initiate offensive if required in the battlefield. According to the then Chief of Army Staff, Gen J J Singh, “They (Pivot Corps) have assigned roles, which are offensive as well as defensive and the doctrine does not spell them out in detail. The decision making has been left to theatre commanders, depending upon their assessment and evaluation of the situation.

**RAPID (Reorganised Army Plains Infantry Division):** The Army also has four RAPID (Reorganized Army Plains Infantry Division) formations each consisting of two infantry brigades, one mechanised brigade with brigade-sized mechanised assets, one artillery brigade, one recon & support battalion, one engineer regiment, one signals regiment and vastly improved surveillance with target acquisition equipment and dedicated aviation units. There are two kinds of RAPID Divisions - offensive and defensive - and there is a slight variation in composition. RAPID formations are attached to the Holding Corps in Punjab and Rajasthan and provide these essentially defensive formations with an extremely flexible unit that dramatically enhances their ability to withstand offensive operations.
Defensive Corps/Holding Corps: They are deployed on the frontline border. They contain purely conventional system of defence having armoured, infantry, and artillery for static defense. They usually don’t have offensive punch; their main role is to defend the country from initial enemy attack.

Strike Corps: also known as the reserve corps and these are usually not placed at the border line for defence. As indicated above they are the reserve corps so they have the capability to support the holding corps fighting on the frontline border. India has 3 strike corps and Pakistan has 2.

IBGs: Integrated Battle Groups are division-sized Integrated Battle Groups (IBGs) that would have mechanized infantry, artillery and armour. The IBGs will be self-contained and highly-mobile, with Russian-origin T-90 MBT and upgraded T-72 M1 tanks at their core, adequately backed by air cover and artillery fire assaults, for rapid thrusts into Pakistan within 96 hours.

LORROS: Long Range Reconnaissance and Observation System is a high quality, remotely controlled; observation system designed for medium and long range surveillance. Its main aim is to provide Border and coastal surveillance, Critical infrastructure protection, Intelligence gathering, Reconnaissance of illegal smuggling and drug trafficking, Artillery spotting & target acquisition and Airport security and surveillance.

FMCP: Force Multiplication Command Post has been set up to integrate real-time flow of information as a principal tool to decision making. This announces the arrival of Network-Centric Warfare capability in the Indian Army.

WLR: Weapon Locating Radar (WLR) is mobile artillery locating Phased array radar developed by India. This counter-battery radar is designed to detect and track incoming artillery and rocket fire to determine the point of origin for Counter-battery fire.

BFSR: Battle Field Surveillance Radar- Short Range (BFSR-SR) is a man portable 2D short range Battle Field and Perimeter Surveillance Radar developed by the Indian Defence Research and Development Organization (DRDO).

Su-30 MKI: The Su-30 MKI is a multi-role two-seater fighter. The aircraft is armed with precision anti-surface missiles and has a stand-off launch range of 120km. The aircraft is fitted with a 30mm GSh-301 gun with 150 rounds of ammunition. The Su-30M, like the Su-30, can engage two airborne targets simultaneously. The aircraft has a TV command guidance system. The air-to-surface missile fits include four anti-radiation missiles, six laser-guided short-range missiles.

RISAT 2: It is all weather spy satellite for surveillance capabilities. This is a 300-kilogram spy satellite, Radar Imaging Satellite (RISAT-2). The satellite would mainly keep a watch on the country’s borders round-the-clock and facilitate the anti-infiltration and anti-terrorist operations. It can take close-up pictures from its perch of over 500 kilometers above the earth of objects as small as a motorcycle.
**Network Centric Warfare:** seeks to translate an information advantage, enabled in part by information technology, into a competitive advantage through the robust networking of well informed geographically dispersed forces.

**Electronic Warfare:** refers to any action involving the use of the electromagnetic spectrum or directed energy to control the spectrum, attack an enemy, or impede enemy assaults via the spectrum. The purpose of electronic warfare is to deny the opponent the advantage of, and ensure friendly unimpeded access to, the EM spectrum. EW can be applied from air, sea, land, and space by manned and unmanned systems, and can target communication, radar, or other services.

**Burraq (UAV):** is a new unmanned combat aerial vehicle (UCAV) currently under development by the Pakistan Air Force and NESCOM. In May 2009 the Burraq UCAV was reported to be undergoing flight testing and would be armed with a new laser-guided air-to-surface missile and laser designator, also designed by NESCOM.

**Satuma Jasoos-(UAV):** Jasoos is a unmanned aerial vehicle designed and manufactured by SATUMA of Pakistan. The Jasoos II Bravo variant is currently operational with the Pakistan Air Force. The Jasoos is controlled remotely from the ground control station (GCS) via a line-of-sight data-link. It has Range: of 80 to 100+ km. Endurance is stated to be greater than 5 hours.

**Beriev A-50:** is a Russian airborne early warning (AEW) aircraft based on the Ilyushin Il-76 transport. The A-50 can control up to 10 fighter aircraft for either air-to-air intercept or air-to-ground attack missions. The A-50 is capable of flying for 4 hours at a 1000 km from its base at a maximum takeoff weight of 190 tons.

**The IAI EL/M-2075 Phalcon:** is an Airborne Early Warning and Control (AEW&C) radar system developed by Israel Aerospace Industries (IAI) and Elta Electronics Industries of Israel. Its primary objective is to provide intelligence to maintain air superiority and conduct surveillance.

**Israeli Harpy UAVs:** are designed to detect and attack enemy radars and carries a high explosive warhead. It has maximum speed of 185 km/h and its range is about 500 km.

**The T-90:** is a Russian main battle tank (MBT), and is currently the most modern tank in service with the Russian army. The T-90S with 1000-hp engine can attain a top speed of 60 kph on the road and up to 45 kph on rough terrain. T-90 is also fitted with nuclear, biological and chemical (NBC) protection equipment, KMT mine sweeps and an automatic fire fighting system. India currently operates up to 620 T-90 which were procured in three separate orders. 1,000 T-90s were to be produced locally by 2020.

**JF-17 Thunder:** is a single-engined, medium-sized, light-weight multi-role combat aircraft developed jointly by the Chengdu Aircraft Industries Corporation (CAC) of China, the Pakistan Air Force and the Pakistan Aeronautical Complex (PAC). It has Maximum speed of Mach 1.8, (2,205 kph).
## Fact Sheet
### Indian Military

<table>
<thead>
<tr>
<th>Indian Military Commands</th>
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<tbody>
<tr>
<td>Army Head Quarters- New Delhi</td>
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<tr>
<td>2- Southern Command- Pune, Maharashtra</td>
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<td>3- Eastern Command Kolkata-West Bengal</td>
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<td>4- Western Command- Chandimandir</td>
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<td>5- Southwestern Command- Jaipur, Rajasthan</td>
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<td>6- Central Command- Lucknow, Uttar Pradesh</td>
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<td>7- Training Command- Shimla, Himachal Pradesh</td>
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<th>Corps</th>
<th>13 - Corps</th>
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<tr>
<td></td>
<td>3 Strike Corps(1&lt;sup&gt;st&lt;/sup&gt;, 2&lt;sup&gt;nd&lt;/sup&gt;, 21&lt;sup&gt;st&lt;/sup&gt;)</td>
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<td>10- Holding corps(3&lt;sup&gt;rd&lt;/sup&gt;, 4&lt;sup&gt;th&lt;/sup&gt;, 9&lt;sup&gt;th&lt;/sup&gt;, 10&lt;sup&gt;th&lt;/sup&gt;, 11&lt;sup&gt;th&lt;/sup&gt;, 12&lt;sup&gt;th&lt;/sup&gt;, 14&lt;sup&gt;th&lt;/sup&gt;, 15&lt;sup&gt;th&lt;/sup&gt;, 16&lt;sup&gt;th&lt;/sup&gt;, 33&lt;sup&gt;rd&lt;/sup&gt;)</td>
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<tr>
<th>Divisions</th>
<th>34 including 4 RAPID (Re-organised Army Plains Infantry Divisions) Action Divisions,</th>
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<tr>
<td></td>
<td>18 infantry</td>
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<td>10 mountain</td>
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<td>3 armoured</td>
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<td>2 artillery</td>
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<tr>
<th>Regiments</th>
<th>93 Tank Regiments</th>
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<td>50 Artillery Regiments</td>
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<td>50 Air Defence Regiments</td>
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<td>62 Armoured Regiments</td>
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<tr>
<th>Armoured</th>
<th>T-90s: 320 +</th>
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<tr>
<td></td>
<td>T-72 M1: 1950</td>
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<td>T-55:715</td>
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<td></td>
<td>Vijayanta:1008 (modified)</td>
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<td>Arjun 54</td>
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<tr>
<th>Infantry</th>
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<td>414,000 - Troops</td>
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<tr>
<th>Air force</th>
<th>Total- 127,200</th>
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<td>5- Regional Commands</td>
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<td>632- Combat Aircrafts</td>
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<tr>
<td>Network</td>
<td>Total</td>
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| Navy    | 58,350| - 7000 Naval Aviation  
|         |       | - 1200 Marines  
|         |       | - Submarines Tactical 16  
|         |       | - Aircraft Carrier 1 |
| Artillery | 11,258+ | 2 Divisions |
| NCW / EW |         | UAV: 14 Nishant  
|         |         | FMCP. (Force Multiplication Command Post)  
|         |         | BFSRs. (Battle Field Surveillance Radar)  
|         |         | LORROS. (Long-range Reconnaissance & Observation Systems)  
|         |         | Phalcon AWACS.  
|         |         | Risaat Satellite: 1  
|         |         | WLRs: (Weapon Locating Radars) around 30 |

**References:**

1. **Military Balance 2010.**
2. [www.globalsecurity.org](http://www.globalsecurity.org)
3. [www.bharat-rakshak.com](http://www.bharat-rakshak.com)
4. [http://indianarmy.nic.in](http://indianarmy.nic.in)
Map:

Location of the Indian Corps & Commands

Source: Collated & Prepared by Sajida Mansoor, Research Fellow - SASSI