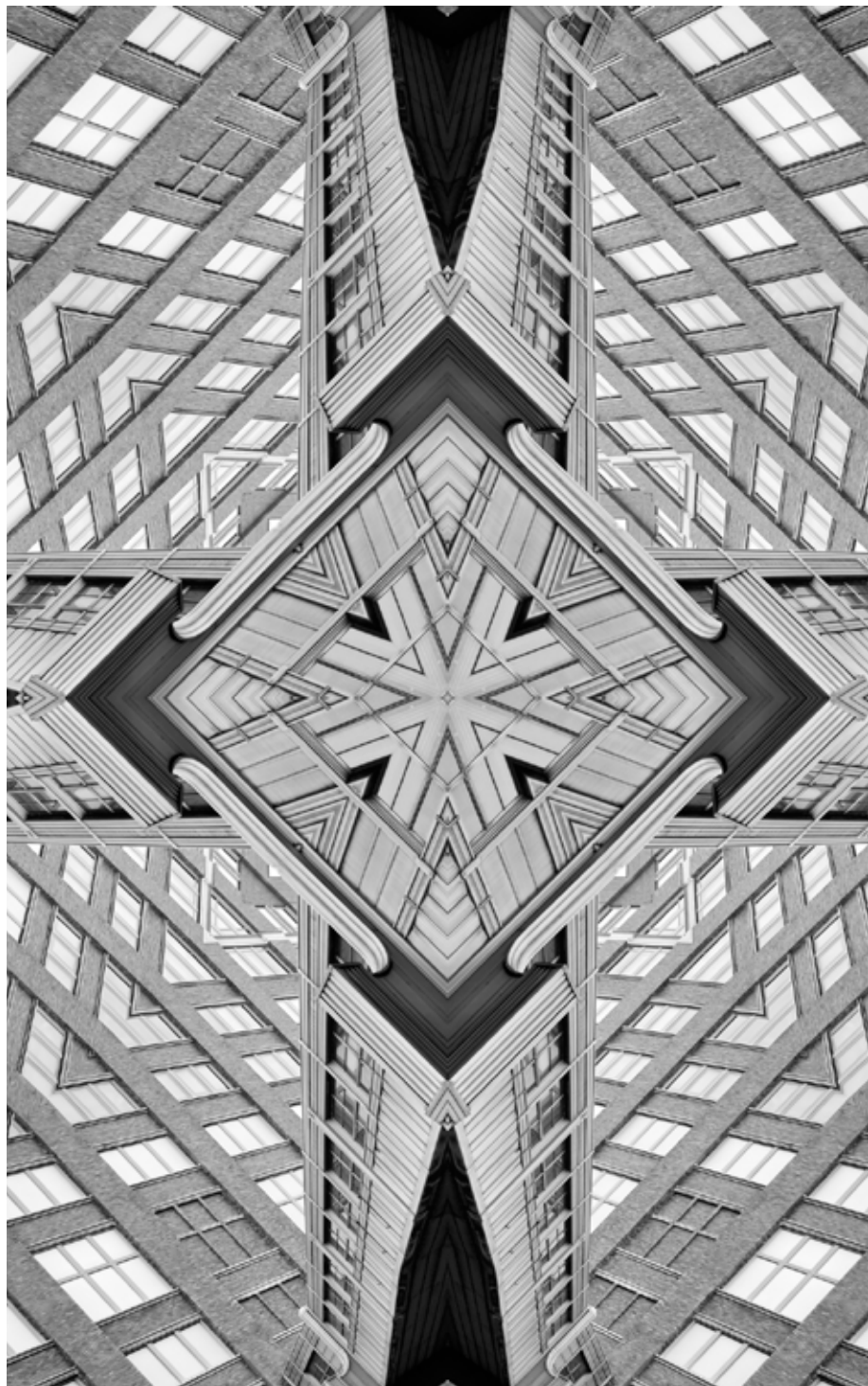


Issue Brief

ISSUE NO. 439
FEBRUARY 2021



© 2021 Observer Research Foundation. All rights reserved. No part of this publication may be reproduced, copied, archived, retained or transmitted through print, speech or electronic media without prior written approval from ORF.

Rebooting the Indian Army: A Doctrinal Approach to Force Restructuring

Deepak Sinha

Abstract

The ongoing conflict on the Sino-Indian border has highlighted the need for structural reforms in the Indian Army. This paper examines the impact of the Joint Doctrine of Indian Armed Forces, 2017 (JDIAF) and the Indian Army's Land Warfare Doctrine, 2018 (LWD) on the development of the Indian Army's tactical concepts, organisational structures, and the weapons and equipment profile. It discusses the importance of formulating a formal National Security Strategy and suggests specific doctrinal imperatives that must be taken into consideration while articulating India's LWD to counter emerging threats effectively.

“Those who do not move, do not notice their chains.”

— *Rosa Luxemburg*

In early May 2020, tensions flared up along the Sino-Indian border, the Line of Actual Control (LAC), in Eastern Ladakh, the *casus belli* being the unprovoked and unexpected belligerence on the part of China’s People’s Liberation Army (PLA) in an attempt to change the status quo on the LAC by occupying large tracts of disputed territory claimed by both sides. The PLA has prevented the Indian Army (IA) from conducting routine patrolling along its Claim Line—the standard practice that has been followed by both sides for years.¹ The IA responded to China’s actions under the ambit of “Operation Snow Leopard,”² raising the stakes by occupying dominating heights in the Chushul and Pangong Tso Sub-Sectors.

With Sino-Indian friction continuing into 2021 and reports of Pakistan having allegedly resorted to uncharacteristic force accretions in the Gilgit-Baltistan Sector,³ opposite Western Ladakh, India now finds itself on the verge of a two-front conflict. Despite attempts to resolve the ongoing stand-off with China through talks, since escalation will not benefit either country, the possibility of war cannot be ruled out. If such a situation does arise, India can expect Pakistan to interfere in Jammu and Kashmir. It can do so either *indirectly* by ratcheting up tensions along the LOC and pushing militants into the Valley to interdict the lines of communication and occupy security forces, or *directly* by launching offensive operations in the Gilgit-Baltistan Sector, in conjunction with the PLA. However, direct involvement would be extremely risky for Pakistan, since it could result in escalation, especially into Pakistan’s heartland in the plains sector, as was the case in 1965 after Pakistan launched Operation Grand Slam in the Chhamb-Jaurian Sector, forcing the IA to launch a riposte further south in Lahore.

The threat of a collaborative attack against India was first discussed in 2009, at the scheduled review of the Indian Army Doctrine (2004). Since then, despite several statements to the contrary by the Chief of Defence Staff (CDS) and the service chiefs, no substantial efforts have been made at bridging the capability gap. At present, the Indian Armed Forces are ill-equipped to counter such an eventuality with any certainty of success. This capability gap is primarily rooted in India’s straitened economic circumstances over the past few years, which has severely affected its defence budget. Defence allocation is currently at 1.5 percent of GDP, the lowest since 1962 and insubstantial for countering collusive threats. Moreover, much of this amount goes towards meeting revenue expenses, leaving

little for procurements or modernisation. The defence services have had to make ad-hoc cuts in their workforce: for example, the IA has disbanded the Animal Transport Units and is grappling with the problem of hiring civilian porters in Ladakh. The military is also forced to retain obsolete aircraft, ships, weapon systems and equipment, with attendant serviceability issues. The holdings of ammunition and other essential war-like stores have also been lowered, and they are currently scaled for only 10 days of fighting at intense rates.⁴ The situation is exacerbated by the Defence Research and Development Organisation's (DRDO) inability to meet targets on time and the poor state of indigenous defence manufacturing, especially the Ordnance Factories and Defence PSUs.

At the same time, the Ministry of Defence (MoD), paid through Defence Estimates, is bloated and in need of downsizing. Over the past five years, the 20,000-strong auditors from Defence Accounts have raised a total of 65,000 objections annually, a rate of just four observations per auditor per year.⁵ The Government of India (GoI) is now planning a shift towards indigenous procurement through the Prime Minister's "Aatmanirbhar Bharat Abhiyan."⁶ While the GoI believes that its efforts will receive the required impetus by simply corporatising the Ordnance Factories and Defence PSUs, this may not be enough, considering the government's dismal record in such matters.^a

The issues discussed herewith are symptoms of a far more serious malaise that afflicts the security establishment—the absence of a formal National Security Strategy (NSS). In the 1990s, the Defence Secretary attempted to justify the lack of a published NSS in a briefing to the Parliamentary Standing Committee on Defence: "All the elements of the doctrine are well known and have been incorporated from our constitution downwards. There have been several publications. There have been policy pronouncements by Ministers in Parliament. So, our national security doctrine is well known and the absence of a written document ... does not create any confusion or lack of clarity in this matter. I however accept that we do not publish it as a document as such."⁷ However, there is little truth in this statement. In the Allocation of Business Rules

“The threat of a collaborative attack against India was first discussed as far back as in 2009.”

^a An example is Air India, where corporatisation has neither protected the institution from unwarranted interference nor ensured better performance.

Introduction

of the Government of India, it is the Defence Secretary, a civilian bureaucrat, who heads the Department of Defence, their responsibilities including the “defence of India and every part thereof including preparation for defence and all such acts as may be conducive in times of war to its prosecution and after its termination to effective demobilisation.”⁸

The neglect towards India’s Armed Forces by successive governments seems to be deliberate and based on two notions: a) that a powerful military poses an existential threat to the political dispensation in power and must be kept in check and out of the decision-making loop; and b) that the military has become less significant, if not obsolete, since the probability of conventional conflicts has greatly diminished with the advent of nuclear weapons.^b

Chairman Mao Zedong had stated, “Political power grows from the barrel of a gun”⁹—a truth applicable as much to international relations as it is to politics. Yet, India’s leadership has shown little appreciation or understanding of the importance of military power in defending and furthering national interest. Misperceptions, lack of clarity, and disinterest in strategic affairs on the part of the political leadership has resulted in a superficial understanding of geopolitical complexities.

“The problems in India’s defense sector are rooted in the absence of a National Security Strategy.”

^b The 1999 Kargil Conflict made it clear that despite the nuclear overhang, there remains scope for limited conventional conflict.

The NSS and Military Doctrine Dilemma

The NSS emerges from a complex process of iteration, evaluation and assessment of competing interests, which determines the type and quality of inputs received, the factors considered, deductions arrived at, and the varied options presented to the appropriate decision-making authority. For the most part, the NSS is a broad-brush document; however, it does require laying down specifics in terms of approaches to be followed, goals to be achieved, and expected timelines, although some of these will not be available in the public domain. In the US, for example, the president, under the Nichols Goldwater Act, is required to submit to Congress the annual articulation of NSS along with the budget. The document covers worldwide goals and interests, foreign policy commitments, defence capabilities, and the short- and long-term uses of elements of national power in protecting or promoting interests and achieving the goals articulated. Further, it comments on the “adequacy of the capabilities of the United States to carry out the national security strategy of the United States, including an evaluation of the balance among the capabilities of all elements of national power of the United States to support the implementation of the national security strategy.”¹⁰

The NSS is also the foundation for a comprehensive military doctrine by the Armed Forces. This military doctrine acts as a formalised guideline that broadly visualises the nature of potential conflicts, the preparations required for them, and methods to be adopted. In its formulation, it flows from the military-strategic goals enumerated, which dictate how the military must be organised, trained

and equipped to carry out its assigned missions. However, this cannot be done in isolation, without taking into consideration existing legacy systems as well as the financial implications of changing them. Moreover, existing organisational, training, and equipping philosophies, culture, and structures can only absorb new ideas and technology to only some extent without affecting internal cohesion. Considering the debilitating consequences of defeat in any conflict, disruptive transformation, while popular and effective in the business world, may not be wholly appropriate in the military.

“The NSS, while a broad-brush document, should specify approaches, goals, and timelines.”

In India, the absence of the NSS leads to ambiguity and lack of clear directives to the military. This is compounded by the military making assumptions to meet potential challenges, which are, on occasion, divergent with the aims of the

The NSS and Military Doctrine Dilemma

country's political leadership and national security establishment. For example, India's "Cold Start" Doctrine, reportedly first proposed in 2009 during the closed-door review of the Indian Army Doctrine 2004, was conceived to counter nuclear escalation but instead fuelled instability by triggering the introduction of tactical nuclear weapons in the region. The Doctrine was intended to remedy problems encountered during Operation Parakram and involved "shallow offensives by divisional sized 'Integrated Battle Groups' (IBG) commencing within 72-96 hours before the international community could intercede, and at the same time, pursue narrow enough aims to deny Islamabad a justification to escalate the clash to the nuclear level."¹¹ However, it prompted Pakistan to introduce tactical nuclear munitions into the battlefield, directly jeopardising India's strategic security objectives. Moreover, the lack of ministerial consensus and a formal NSS document creates ambiguity regarding accountability if things go wrong.

The Joint Doctrine of Indian Armed Forces (JDIAF) issued under the aegis of the HQ Integrated Defence Staff (IDS) in April 2017 lays down for itself Key Military Objectives with the following proviso: "Even though we have no formally articulated National Security Policy and Strategy, it does not imply that they do not exist or are not sufficiently understood. Central to our NSS is to maintain an effective conventional and nuclear deterrent capability."¹² The implication is that there are classified quasi-formal documents laying out such policy, likely referring to the Raksha Mantri's Operational Directive, which is a document "periodically prepared by the HQ IDS and approved by the minister, now form the basis of defence planning. In the run up to the formulation of the 12th Defence Five-Year Plan (FYP) (2012–17), all the Services Headquarters confirmed to the MoD that the Op Directives were a good enough basis for formulating the plan."¹³ However, "the difference of opinion between the MoD and the Ministry of Finance (MoF) over the size of the 11th Defence FYP (2007–12) was one of the reasons why it could not be brought before the Cabinet Committee on Security (CCS)."¹⁴ Thus, it is unrealistic to expect the FYP to be adhered to when the MoF has not provided the requisite budgetary support. Consequently, the Raksha Mantri's Operational Directive amounts to little more than an internal document of the Ministry of Defence and cannot be considered a credible substitute for the NSS. For an NSS document to be of any relevance within India's governance structures, it must be placed before the Cabinet, to highlight and resolve all inter-ministerial disagreements or divergence of views before its approval and dissemination.

The NSS and Military Doctrine Dilemma

At present, the Armed Forces prepares a 15-year Long-Term Integrated Perspective Plan (LTIPP) based on the Raksha Mantri's Operational Directive. From the LTIPP flows the five-year Services Capital Acquisition Plan (SCAP) and the Annual Acquisition Plan (AAP). Any divergence of views at the highest levels of government that nullifies or creates obstacles to the Raksha Mantri's Operational Directive not being provided the requisite financial support adversely impacts the procurement process, leading to unacceptable delays and ad-hocism. The LWD, in its review of capability development, notes that the "prioritisation of acquisition shall be based upon 'Op Critical', 'Op Essential' and 'Op Advantageous' requirements. The type and quantities of critical operational equipment/assets will be acquired in a balanced manner based on guaranteed funding."¹⁵

Even as it is possible to create a workable strategic document despite poor processes, it is unlikely in India, given the overwhelming domination of the country's security narrative by a politico-bureaucrat nexus that can often prioritise power over national interest. To a great extent, this explains the marginal institutional influence that the military leadership has in the formulation of national strategy. The GoI recently appointed a Chief of Defence Staff (CDS), and while it is too early to see the impact of this reform on India's higher defence architecture, his responsibilities seem limited. For example, the CDS is the "Principal Military Adviser" to Raksha Mantri on all tri-Services matters,¹⁶ unlike in other democracies, where such an appointee is the Principal Adviser to the Head of Government.

“India's security narrative is dominated by a politico-bureaucrat nexus that prioritises power over national interest.”

c Both the DPC and the SPG are headed by the National Security Advisor (NSA).

The NSS and Military Doctrine Dilemma

Moreover, the CDS has only been granted the position of a member of the Defence Planning Committee (DPC)¹⁷ as well as in the Strategic Policy Group (SPG),^c which is the “principal mechanism for inter-ministerial coordination and integration of relevant inputs in the formulation of national security policies.”¹⁸ Thus, the NSA *de facto* performs the duties of the CDS—a peculiar situation since the former completely lacks the requisite experience.

While the JDIAF 2017 may be an inherently flawed document, it manages to articulate India’s broad military strategy. Scholars have pointed this out, suggesting that “in the absence of a clearly articulated NSS, perhaps the closest to an official articulation of Indian thinking on how various instruments of force combine to meet national security objectives.”¹⁹ Thus, the “National Military Objectives and Roles” that it specifies for itself are relevant, since they provide the contextual format within which the critical elements that impact the formulation of a workable and relevant military doctrine can be examined.

“The JDIAF has served as proxy for a clear-cut National Security Strategy.”

As George K. Tanham, defence analyst, has noted,²⁰ historical and cultural factors have played an important part in shaping India's current strategic thinking. His broad conclusions are summarised in the following paragraphs:

- Geography has had a profound impact on India's historical and cultural aspects. First, the country's strategic location, subcontinental size and vast population have created amongst the people a strong sense of high standing in the world. Second, the high mountain and sea barriers that protect the nation have made the people insular and inward looking, with little interest in matters beyond the subcontinent, apart from trade.
- British colonisation resulted in technological, socio-economic, and cultural transformation and the rise of India as a modern state in the Westphalian model. However, the subsequent debilitating impact of Partition, which resulted in the death and displacement of millions, has become deeply ingrained in the collective Indian psyche. This has forged a strong belief that the unity of India cannot be put at risk again.

“Independent India's focus has been protecting its sovereignty, territorial integrity, and internal cohesion.”

As Tanham's observations suggest, independent India's focus has been protecting its sovereignty, territorial integrity and internal cohesion. The tacit expectation of India's political leadership has often been for the military to defend every inch of territory, regardless of terrain or tactical considerations. This has necessitated the use of excessive personnel for linear deployment along the Line of Control (LoC) and parts of the International Boundary, curtailing the freedom of action of military commanders in the operational realm. Moreover, over the years, India has shown little inclination for either aggressive hegemonic behaviour or territorial ambitions towards any of its neighbours. Indeed, the political leadership has generally shown a great aversion to confrontations with neighbouring nations.^d

^d For example, some analysts are of the view that Pakistan was not appropriately penalised for either the Parliament Attack of 2001 or the Mumbai Attacks of November 2008.

Doctrinal Imperatives

The present government has made some efforts to change this status quo with Pakistan, as evident in India's response to the Uri and Pulwama episodes.^e However, its approach towards China remains defensive. The Doklam standoff was a clear outlier, driven by the initiative and resolve of local commanders, despite lukewarm support from Army Headquarters. Since then, the government has reverted to its earlier posture; following the Wuhan Consensus, India chose not to act even as China systematically occupied much of the Doklam plateau and other territories of Bhutan, India's close ally. India's response in the initial stages of the ongoing confrontation in Eastern Ladakh has been similar, and it has yet to acknowledge the PLA's alleged occupation of approximately a 1000 sq km of disputed territory. Consequently, there is a strong reservation within the military establishment regarding the government's resolve to follow through on its present course, especially given that China controls the escalation ladder.

^e The Uri Incident involved an attack by four heavily armed terrorists on an Army Base near Uri town, Jammu & Kashmir, on 18 Sep 2016, killing 17 soldiers and injuring 30 others. The Pulwama Incident involved a suicide attack by a car-borne terrorist on a paramilitary forces convoy near Pulwama town, in Jammu & Kashmir. It resulted in the killing of 40 personnel.

Continental Mindset: The Unchanging Reality

Scholars and analysts are increasingly making adverse comments on the perceived continental posture of the security establishment. Arzan Tarapore, a researcher at Stanford University, for example, notes, “Modern India’s military strategy has been dominated by ground forces managing threats on its northern continental periphery. Air power has traditionally been used only as a supporting adjunct to land power, rather than an independent strategic tool; and India has not projected significant maritime force despite a notable history of seafaring and influence across the Indian Ocean region ... To handle all this, the army attracts an ever-growing share of the military budget and resources. Despite its potential as a hybrid continental-maritime power, India’s security policy is dominated by ground forces.”²¹

India’s continental mindset is governed by three factors that are difficult to dispute. First, India is beset by two inimical neighbours, with threats concentrated mainly against land borders. While naval dominance of the Indo-Pacific and the Arabian Sea are important, its Achilles’ heel remains the land border. Second, the terrain configuration along the Northern and Eastern borders implies that all conflict in those areas, whether against China or Pakistan, will be fought in high altitude mountains, which makes it manpower intensive and increases cost on the exchequer in the long run. Third, as the JDIAP 2017 observes, “Our strategic location at the ‘head and heart’ of the Indian Ocean gives us tremendous leverage to preserve peace, promote stability, and maintain security.”²² Thus, a strategy of sea denial can help India achieve its aims without depending on a large blue water navy.

Contrary to this, the GoI continues in its attempts to institutionalise the “Quad”^f and improve bilateral ties with other countries in the region, such as Vietnam, to contain Chinese naval power in the Indo-Pacific. The government’s approach, whether it proves successful or not, shows that India still believes in the Mahanian view—that maritime power is the sole arbiter of geopolitical heft, as earlier exemplified in Prime Minister Jawaharlal Nehru’s remark, “*to be secure on land one must be supreme at sea.*” Such a view may be of relevance for the US, which has no land borders. It is less so for continental adversaries such as India and China, especially since whatever actions the Indian Navy may pursue to impede or disrupt the Chinese Sea Lines of Communication (SLOC) will have little impact on the continental theatre of operations in the short term.

^f The Quadrilateral Security Dialogue, also known as the Quad is an informal strategic forum between the United States, Japan, Australia and India that is maintained by semi-regular summits, information exchanges, and military drills.

Continental Mindset: The Unchanging Reality

As Zorawar Daulat Singh, foreign affairs analyst, notes in *Powershift: India-China Relations in a Multipolar World*, “For India, continental geopolitics can never be compensated by a maritime geostrategy²³ ... The BRI is as much a consequence of a global power transition as it is an attempt shape that transition in ways that can buttress China’s regional and international position as well as preserve stability in the domestic realm. From a geopolitical perspective, a Eurasia-centred geostrategy—which the BRI now embodies—appears as a pragmatic choice to avoid a headlong confrontation with the US in the Western Pacific.”²⁴ This argument is further strengthened in Amitav Ghosh’s review of Zorawar’s book, “The Earth is now in the grip of a planetary crisis that is unfolding in a non-linear fashion, changing everything, including geography, and therefore also geopolitics ... the opening up of a new maritime passage through the Arctic. This route will not only lessen China’s strategic dependence on the Straits of Malacca, it will also create an entirely new maritime choke-point in the Bering Straits. Similarly, non-linear changes are now unfolding rapidly on and around the Himalayan plateau, the ‘Third Pole’ from which both India and China receive much of their water.”²⁵ This can be considered a return to Mackinder’s theory, enunciated in 1904, that the domination of Western sea power was at an end and that the heartland of Eurasia would hold the key to world dominance. In the Indian context, this means that weakness along the LAC cannot be countered simply by using naval assets and must be allotted the requisite resources. Furthermore, India must accept and understand the impact that climate change will have at the strategic, operational and tactical levels.

Between India and Pakistan, the only unsettled border issue is the LoC along the mountainous tract of Pakistan-Occupied Kashmir and Gilgit-Baltistan. Moreover, Pakistan will attempt to keep the conflict limited to the mountains as it would prefer to avoid its vulnerable heartland, the Punjab Province, from being targeted by India’s superior mechanised forces. Considering Pakistan’s response to India’s “Cold Start” Doctrine, there is a real possibility of conventional operations in the plains rapidly escalating into the nuclear domain. However, another view suggests that the fear of its own civilian casualties due to Pakistan’s

“India’s continental mindset is shaped primarily by the fact that it has inimical neighbours.”

Continental Mindset: The Unchanging Reality

population density and built-up nature of terrain close to the border will be a constraining factor against escalation, leaving some scope for conventional operations. Thus, while conventional warfare is unlikely in the developed terrain in the plains, it remains a distinct possibility in the desert further south, since open and less populated areas provide relatively more space for manoeuvring. However, operations here are of little consequence to either side due to the lack of vulnerable areas, which can be seen as red lines, in the immediate vicinity of the border.

In the context of future conflicts, especially with regard to kinetic ground operations, the bias appears to be against operations in the plains sector, with the centre of gravity shifting to the mountains, where limited wars may be fought under a nuclear overhang. Moreover, collusive action will likely be predicated on the fact that the success of Operation Meghdoot has allowed the IA to occupy most of the dominating heights on Saltoro Ridge to the west of Siachen Glacier. The IA can dominate the entire region up to the Karakoram Pass, including the Shaksgam Valley, which has been illegally ceded to China by Pakistan. This threatens the security and success of the China-Pakistan Economic Corridor (CPEC) being constructed through this region. Given the massive investments that have been made in the CPEC project, its importance to both China and Pakistan cannot be underestimated.

“Weakness along the LAC cannot be countered simply by using naval assets.”

Organisational Considerations

In light of the shift of the centre of gravity to the mountains, the bulk of India's land forces must be not only poised and located for conflict in the mountains but also organised, equipped and trained to operate in such extreme terrain. Of the three Strike Corps located in the plains, two must ideally shed their armour resources and convert to Mountain Strike Corps; moreover, the one existing Mountain Strike Corps must be developed to its full strength. Considering the existing infrastructure difficulties in the mountains, these Corps must perforce be organised and equipped for movement by air. Finally, in conjunction with these Strike Corps, the bulk of India's Special Operations Forces (both Airborne and Special Forces) should be oriented for operating in mountains.

The focus of the IA, too, will have to shift towards terrain-specific specialisation, from the "general-purpose" organisational philosophy that has persisted since the creation of the British Indian Army. For example, the Standard Infantry Battalion is primarily organised and equipped for fighting in the plains; when it is sent to mountain or desert theatres, it adopts the appropriate modifications. However, this model is neither cost effective nor efficient, since manpower reorientation, training and skills development take time.

“The focus of the Indian Army will have to shift to terrain-specific specialisation.”

So far, transformational changes in the IAF have not been seriously considered due to the severe dislocation such changes would cause to the legacy logistic chain already in place, in terms of military stations and logistics bases. The issue is further complicated by the diverse terrain and extreme environmental conditions where combat forces are deployed and the complex manner in which technology has impacted their operational conduct.

Understanding Modern Warfare

In the context of operations in developed, semi-developed and desert terrain in the plains of Punjab and Rajasthan, technology has become a crucial winning factor. Operation Desert Storm during the First Gulf War of 1991 was the first glimpse at the true potential of the convergence of ICT, Artificial Intelligence (AI), Robotics, and Autonomous Platforms on the conduct of combat operations. The initial operations conducted by the US and Coalition Forces in their invasion of Iraq in 2003, as a part of Operation Enduring Freedom, further confirmed the efficacy of technology-dominated “Fourth Generation Warfare.” William Lind, et al., in their pathbreaking work, *The Changing Face of War: Into the Fourth Generation* (1989),²⁶ note that the major catalysts for generational changes are the influence of technology and ideas. They identify four central tenets that have carried over and developed from generation to generation, and how Fourth Generation Warfare was likely to evolve further.

- Each generational change has been marked by greater dispersion on the battlefield. Thus, Fourth Generation Warfare “include[s] the whole of the enemy’s society.”
- There is decreasing dependence on centralised logistics, leading to “a high degree of ability to live off the land and the enemy.”
- There has been a shift from mass to manoeuvre as “mass may become a disadvantage as it will be an easy target. Small, highly manoeuvrable agile forces will tend to dominate.”
- The nation’s morality and will to succeed have gained importance, aiming at the “goal of collapsing the enemy internally rather than physically destroying him.”

Thus, Lind et al. viewed Fourth Generation Warfare as undefined, with the line between war and peace, and civilian and military blurring, if not disappearing completely. Such a war would be non-linear with no definable battlefields, and actions would occur concurrently, with society as a cultural and not just a physical entity. The time for large, infantry-heavy combat forces has passed. Ground forces operating in the plains and deserts must now be wholly mechanised, nimble, fast-moving, and capable of operating in a modern networked battlefield in a nuclear, biological and chemical warfare (NBC) environment. The ongoing conflict between Armenia and Azerbaijan has brought to the fore the value of sensors and drones, such as swarms, in-ground operations, especially in the absence of a viable Air Defence Systems.²⁷

Understanding Modern Warfare

However, in the context of operations in High Altitude Mountain terrain, this might not hold true. Here, a combination of the lack of oxygen, extremely low temperatures, uncertain and rapidly changing weather, and strong wind conditions pose unique challenges that test human endurance and the military's capability to wage war at those altitudes. The rarefied atmosphere and cold reduce human ability to sustain at such altitudes for long periods despite acclimatization. The heights, terrain and gradients make movement on foot slow and difficult, and hinder the construction of required infrastructure for sustaining operations. The cold weather and wind conditions greatly reduce accuracy and efficacy of weapons and equipment, including that of aircraft, helicopters, unmanned aerial vehicles (UAV's), artillery and missile systems, and electronic and surveillance equipment.

Marcus P. Acosta, US Army captain, in his thesis, "High Altitude Warfare: The Kargil Conflict and the Future," concludes: "Revolutions in technology drive tactical change. Yet certain regions of the world remain largely unaffected by the full reach of advances in military technology. Thin air, cold weather, and mountainous terrain combine to create a uniquely inhospitable battlefield at high altitude. The elements of military victory at high altitude have not dramatically changed. Overwhelming fire, in concert with bold manoeuvre, continues to determine victory on the high- altitude battlefield. The emergence of precision warfare has yet to dominate combat in the timeless environs of the world's highest mountains."²⁸

Technology, especially ICT, AI and Robotics have enhanced the capabilities of surveillance systems, communications equipment, lightweight weapons and survival gear, as well as precision munitions, to some extent. However, their impact on the conduct of operations in the mountains will be much less effective,

“In fourth-generation warfare, the line between war and peace, and civilian and military, is blurring.”

Understanding Modern Warfare

due to the turbulent environmental and climatic conditions. As the old adage goes: “Mountains eat up troops.” Nonetheless, in time, the rapid improvement in technologies will force changes in doctrine, organisation and tactics. It will allow for troops to remain in combat for longer durations; enhance stand-off capabilities; speed up movement; and improve survivability, accuracy and destructive capabilities. In the context of mountain warfare, Special Operations Forces (SOFs) must become an essential and integral component of the IAF profile, especially in the Tibetan Autonomous Region (TAR), which is primarily a desert plateau ringed by mountain ranges. Even as irregular forces, in conjunction with local insurgent groups, could tie down internal security forces within TAR, SOFs and the Mountain Strike Corps can take the battle into TAR using airborne/air-transported operations.

“The rapid improvement in technologies will force changes in doctrine, organisation and tactics.”

The IA's Technology Conundrum

For the military to successfully fulfil its assigned role, visualising the existing and future technological environment in which they are required to operate—in essence, the future battlefield—must be given due consideration while deciding the weapons and equipment profile, force structures, and tactics to be adopted. The issue is complex: planning parameters have to cater for factors such as the rapid rate of technological obsolescence; the development and procurement cycle of weapon systems is on average 10-15 years; and once introduced, the weapons must remain in service for two to three decades to be economically viable.

The American experience is particularly illustrative in this regard. The end of the Cold War left the US as the only military power of consequence, with the possibility of conventional conflicts greatly diminished. Rapid and successful termination with minimal casualties of any crisis became a strategic imperative, especially given its technological edge. The 'force transformation' project spearheaded by the Pentagon and Secretary of Defence Donald Rumsfeld wholeheartedly embraced the concepts of revolution in military affairs (RMA) and network-centric warfare (NCW) as the fulcrum of the US' military doctrine. This led to the employment of smaller high-quality forces, supported by potent precision munitions and backed up by highly effective command, control, communications, computers, intelligence, surveillance, target acquisition and reconnaissance (C4ISTAR) capabilities. Operations envisaged the ability of such forces to move rapidly over great distances and simultaneously engage the enemy in depth, destroying or severely degrading its command-and-control elements and war-fighting capabilities while avoiding collateral damage.

This model was validated in the Gulf War of 1991 and in the initial phases of the subsequent offensives in Afghanistan and Iraq. However, the protracted campaigns of attrition that followed highlighted the limitations of this doctrinal approach as the challenges of irregular warfare accentuated the inadequate availability of "boots on the ground," resulting in military defeats in Iraq and Afghanistan. However, some scholars and practitioners believe that the military performed its assigned tasks effectively and that their tactical victories were rendered redundant only due to the inability of policymakers to resolve the strategic conundrum.²⁹

The IA's Technology Conundrum

Within the IA, there has been only rudimentary utilisation of technology convergence of ICT, AI, Robotics and Autonomous Platforms. This is perhaps due to the complexity involved in operating in diverse terrain. While the IA has been focused on networked solutions that enable optimum utilisation of the existing C4I2SR systems, it must also look at other aspects of ICT to create a transformative impact on its hierarchy, personnel, equipment and logistics management. For instance, hierarchical levels can be reduced and a flatter organisation put in place; as seen in the corporate sector, networked systems greatly enhance management capabilities, especially the ability to receive and handle vast amounts of data. Reduction of one level of headquarters, for instance, can reduce both manpower and cost while improving response timings and feedback due to the decrease in bureaucratic bulk.

While the lower levels of command-and-control from the section to the battalion are necessary, given the limited depth within which battalions are deployed, this is no longer the case at the brigade, division, corps or army level, where it is possible to eliminate one a level without disruption. Customised enterprise systems can help headquarters in data analysis, allowing them to gauge a unit's combat effectiveness, such as casualties and manpower deficiencies, profile and status of weapons, equipment and ammunition, and availability of rations. Moreover, its impact on logistic forecasting and equipment management would be immense. Such a system, utilising RFID and other autonomous technology, can preclude the need for constant interactions with subordinate commanders for basic inputs while also reducing manpower requirements for non-combat duties at all levels.

“Within the Indian Army, there has been rudimentary use of technology convergence of ICT, AI, robotics and autonomous platforms.”


Conclusion

Brig. Deepak Sinha (Retd.) is an Adviser at ORF.

In the backdrop of a developing two-front conflict with China and Pakistan, the IAF finds itself woefully unprepared. Based on a realistic assessment of current and future threats, rightsizing of the military, as well as other establishments paid out of Defence Estimates, is the only way forward. Further, the government must work towards enhancing the defence budget substantially, to counter collusive threats effectively.

Since the political leadership in India lacks knowledge of or interest in geopolitical complexities, a realistic and formal NSS document is yet to be formulated. The JDI AF and the LWD lack the details and heft necessary for providing a framework to reorganise the military, in terms of the tactics, organisation, training and weaponry required to face emerging threats. Moreover, successive governments have shown wilful neglect of the military, keeping it out of the NSS formulation process. Over the years, the political establishment in India has focused more on protecting the country's territorial integrity, and less on issues of national security. Consequently, additional personnel have been deployed to hold territory, tying down resources and constraining the flexibility of military commanders.

In this era of Hybrid/Fourth-Generation Warfare, the Indian military must be prepared to tackle a limited war below the nuclear threshold, especially given the possibility of a collusive attack by Pakistan and China. The IA must rethink its "general-purpose" structure and reorganise itself into a terrain-based posture. In the plains, the military can have a personnel-light mechanised profile, capable of utilising modern technology, while its mountain forces must be capable of operating without the full benefit of modern technology. The country's offensive capabilities, including SOF, must be enhanced with appropriate capabilities for punitive deterrence.

In a Post-COVID world, how a government handles the evolving health, economic and sociopolitical crises will determine its standing in the geopolitical environment. China has emerged much stronger in the aftermath of the pandemic, and as the ongoing confrontation in Eastern Ladakh suggests, there is little scope for going back to business as usual. India must be prepared to confront Chinese aggression on its borders, and review its preference for "strategic autonomy" and the issue of proactive response. It is important for India to have a formal NSS document that will provide clarity to the military regarding how it should counter threats from China, especially in the Grey Zone. 

- 1 Shri Rajnath Singh's, "Statement (15 September 2020) in Lok Sabha on agreements and protocols with China, Statements.htm?dtl/32971/ Text+of+Raksha+Mantri+Shri+Rajnath+Singhs+Statement+in+Lok+Sabha+on+September+15+ Regarding+ Situation+on+Eastern+Border+in+Ladak.
- 2 Gaurav C. Sawant, "Op Snow Leopard: Inside Story of How Indian Army Reclaimed Heights in Eastern Ladakh", India Today, 16 September 2020, <https://www.indiatoday.in/india/story/snow-leopard-inside-story-army-reclaimed-heights-ladakh-exclusive-1722311-2020-09-16>.
- 3 Manu Pubby, "Pakistan Moves 20,000 soldiers to Gilgit Baltistan LOC", The Economic Times, 02 July 2020 <https://economictimes.indiatimes.com/news/defence/pakistan-moves-20000-soldiers-to-gilgit-baltistan-loc/articleshow/76718059.cms>.
- 4 Lok Sabha Secretariat, *41st Report of the Standing Committee on Defence*, http://164.100.47.193/lsscommittee/Defence/16_Defence_41.pdf.
- 5 Lt Gen Vinod Bhatia, "Defence Reforms: Transforming Indian Military Force to Military Power", *Centre for Joint Warfare Studies Occasional Paper Vol 1/August 2017 pp 6*. <https://www.cenjows.in/synodos-detail?id=25>.
- 6 Ministry of Finance, Government of India, <https://pib.gov.in/PressReleasePage.aspx?PRID=1624651>
- 7 Ali Ahmed, "Clarifying India's strategic Doctrine", *IDSA Comments*, 25Oct 2010 https://idsa.in/idsacomments/ClarifyingIndiasStrategicDoctrine_aahmed_251010
- 8 Cabinet Secretariat, "Government of India (Allocation of Business) Rules", 1961(As Amended up to 31 Jan 2017) https://cabsec.gov.in/writereaddata/allocationbusinessrule/completeaobrules/english/1_Upload_1187.pdf
- 9 Mao Zedong, "Selected Works, Vol. II", Pergamon Press Ltd, Oxford, UK, 1965, pp. 224.
- 10 Don M Snider, "The National Security Strategy: Documenting Strategic Vision", *US Army War College*, 15 Mar 1995 pp1-2. <http://nssarchive.us/wp-content/uploads/2012/05/Snider.pdf>.
- 11 Snider, *The National Security Strategy: Documenting Strategic Vision* , pp15-16.
- 12 Headquarters Integrated Defence Staff, Ministry of Defence, *Joint Doctrine Indian Armed Forces 2017 (Second Edition)*, pp3 https://ids.nic.in/IDSAdmin/upload_images/doctrine/JointDoctrineIndianArmedForces2017.pdf.
- 13 Amit Cowshish, "Distortions in the Discourse on Modernization of Armed Forces"; *Journal of Defence Studies*, Vol. 8, No. 3, July–September 2014, pp. 7-20 http://idsa.in/jds/8_3_2014_DistortionsintheDiscourseonModernizationofArmedForces.html.
- 14 Cowshish, *Distortions in the Discourse on Modernization of Armed Forces*
- 15 Indian Army, Government of India, New *Land Warfare Doctrine 2018*, pp 8 <https://www.indianarmy.nic.in/Site/FormTemplate/frmTempSimple.aspx?MnId=g8hN+idIsOILGnmq88DIA== &ParentID=zPAHqYr3pkYdHfnZ8K6ZJg==>
- 16 Press Information Bureau, Government of India, <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1597425>
- 17 Press Information Bureau
- 18 "Strategic Policy Group Reconstituted, Ajit Doval is Chairman", *The Hindu*, 10 Oct 2019, <https://www.thehindu.com/news/national/strategic-policy-group-reconstituted-ajit-doval-is-chairman/article25175468.ece>

- 19 Abhijnan Rej, Shashank Joshi, “India’s Joint Doctrine: A Lost Opportunity”, *ORF Occasional Paper No 139, Jan 2018*, https://theasiadialogue.com/wp-content/uploads/2018/03/ORF_Occasional_Paper_Joint_Doctrine.pdf
- 20 George K. Tanham, “Indian Strategic Thought: An Interpretive Essay”, *RAND Corporation, 1992*, <https://www.rand.org/pubs/reports/R4207.html>.
- 21 Arzan Tarapore, “The Army in Indian Military Strategy: Rethink Doctrine or Risk Irrelevance”, *Carnegie India 10 Aug 2020*, <https://carnegieindia.org/2020/08/10/army-in-indian-military-strategy-rethink-doctrine-or-risk-irrelevance-pub-82426#:~:text=The%20Army%20in%20Indian%20Military%20Strategy%3A%20Rethink%20Doctrine%20or%20Risk%20Irrelevance,-Arzan%20Tarapore&text=The%20Indian%20Army’s%20prevailing%20doctrine,to%20meet%20today’s%20new%20challenges.>
- 22 Headquarters Integrated Defence Staff, Ministry of Defence, Joint Doctrine Indian Armed Forces 2017, pp8.
- 23 Zorawar Daulat Singh, “Power Shift: India- China Relations in a Multipolar World”, MacMillan India, 2020, pp 198.
- 24 Singh, *Power Shift: India- China Relations in a Multipolar World*, pp160
- 25 Amitav Ghosh, “An Insightful Re-Examination of Volatile Indi- China Relations”, review of *Power Shift: India- China Relations in a Multipolar World*, by Zorawar Daulat Singh, *The Wire*, 14 Nov 2020 <https://thewire.in/security/zorawar-daulet-singh-powershift-review>.
- 26 William S Lind, Col Keith Nightengale, (USA), Capt. John F Schmitt, (USMC), Col Joseph W Sutton, (USA); Lt Col Gary I Wilson, (USMCR), “The Changing Face of War: Into the Fourth Generation”, *Marine Corps Gazette*, Oct 1989, pp 22-26.
- 27 “Heavy metal: The Azerbaijan-Armenia conflict hints at the future of war”, *The Economist*, 10 Oct 2020, <https://www.economist.com/europe/2020/10/10/the-azerbaijan-armenia-conflict-hints-at-the-future-of-war>
- 28 Marcus P Acosta, “High Altitude Warfare: The Kargil Conflict and the Future”, (MA diss, Naval Postgraduate School, Monterey, California, 2003), pp 75. http://calhoun.nps.edu/bitstream/handle/10945/1043/03Jun_Acosta.pdf?sequence=1
- 29 Jim Lacey, “The Continuing Irrelevance of William Lind”, *Small Wars Journal*, 24 Apr 2014, <https://smallwarsjournal.com/jrnl/art/the-continuing-irrelevance-of-william-lind>



Ideas . Forums . Leadership . Impact

20, Rouse Avenue Institutional Area,
New Delhi - 110 002, INDIA
Ph. : +91-11-35332000. Fax : +91-11-35332005
E-mail: contactus@orfonline.org
Website: www.orfonline.org