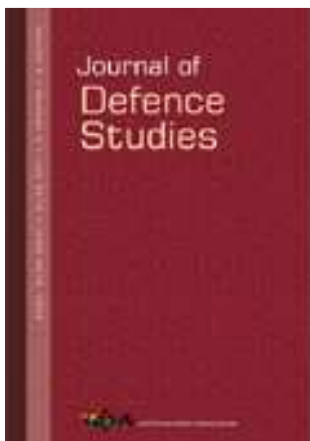# Institute for Defence Studies and Analyses

No.1, Development Enclave, Rao Tula Ram Marg
Delhi Cantonment, New Delhi-110010

Please Scroll down for Article

An Assessment of Organisational Change in the Indian Army

Vivek Chadha[*]

The article analyses military change in the context of the Indian Army, with specific focus on organisational innovation and change. In doing so, it analyses two case studies: restructuring of the army after the Sino-Indian War of 1962; and mechanisation based on the 1975 expert committee recommendations. On the basis of these case studies, the article assesses the drivers and desirables for organisational change in the Indian Army, with the further aim of deriving policy recommendations which are especially apt in light of the ongoing transformation of the army. It identifies operational environment and technology as the principle drivers for change, with doctrine and strategic culture having a limited impact. It further concludes that successful change requires long-term strategic assessment, supportive political leadership, visionary and committed military leadership, strong institutional structures and follow-up action.

Change, military or corporate, is considered a challenge given the inherent resistance of organisations and their desire to remain in their comfort zone. Rosen, the author of a seminal book on military innovation and change, suggests that 'Almost everything we know about large bureaucracies suggests not only that they are hard to change, but that they are *designed not to change*.'[1] Past experience suggests that, more often than not, military bureaucracies fit this description as their tradition-bound nature creates an inherent distaste for change.[2] Ironically, the very nature of modern combat is based on the ability to observe, orient, decide and act, which

 * Colonel Vivek Chadha (Retired), is a Research Fellow at IDSA.

is referred to as the OODA loop. Thus arises a contradiction wherein the fundamental nature of bureaucracies, including military bureaucracies, is to resist change even as the critical requirement for militaries to succeed is based on the ability to successfully manage change.

If the only constant in life is change, then military change should be a continuum.[3] However, the theory of organisational behaviour suggests just the reverse.[4] This brings into focus the *nature of change* as a critical factor of this perceptional anomaly. One finds that while militaries, as a routine, go about adaptation either as an operational requirement or as a result of constraints, it is the transition of major change, characterised by innovations, that remains a challenge. As an illustration, the Indian Army is known for its ability to successfully operate in a variety of roles from disaster relief to counter-insurgency operations and peacekeeping missions to conducting international sporting events. Even while fulfilling its primary role of defending the country against external threats, battlefield adaptation is more the norm rather than an exception. However, much like other armies, which adapt well but find it challenging to successfully undertake major changes, the Indian Army also faces a similar dilemma.

In order to place these major changes in perspective, the definition given by Farrell and Terriff provides the overall framework. It defines military change as 'change in goals, actual strategies, and/or structure of a military organisation'.[5] These three constituents are related and, more often than not, facilitate the overall understanding of change management. However, an article of this nature cannot possibly do justice to all three factors even as these form a part of the larger project of military change in the Indian context. The scope of the article has deliberately been limited to organisational changes in relation to external conventional threats to enable a sharper focus on what is considered a vital facet of military change. However, a brief strategic backdrop is provided through the evaluation of drivers which contextualise changes with the larger security environment under which these were undertaken. A larger project will subsequently deliberate upon strategic issues in more detail, which includes the much debated 'Cold Start' Doctrine of the army.

This assessment of military change can also be related with the ongoing transformation of the army, which includes changes at the organisational level aimed at improving efficiencies and overall combat effectiveness. General V.K. Singh, the former Chief of Army Staff, stated that these changes would 'reorganise, restructure and relocate' formations in order to achieve enhanced agility and lethality.[6] The success of the

ongoing transformation can benefit from the army's past experiences of change management.

This article analyses organisational military change on the basis of two case studies: the restructuring of the Indian Army after the 1962 war; and structural changes as a follow-up of the 1975 Krishna Rao Committee report.[7] These case studies highlight the 'drivers' and 'desirables' to undertake military change.

According to Farrell and Terriff, military change occurs due to the changing nature of threat and technological development.[8] The authors highlight that the 'obvious source of military change is strategic, that is, changing threat to national security.'[9] However, other academics like Barry Posen argue that change occurs as a result of defeat in war as well as a result of civilian intervention.[10] Posen also concludes that change can best be brought about by civilian intervention supported by military 'mavericks' who are willing to move against conventional wisdom and yet provide the necessary expertise for helping initiate change. In contrast, Stephen Rosen suggests that a desirable condition for change is political support for professional military leadership.[11]

The article will attempt to relate these theoretical constructs to the Indian context, to derive the drivers and desirables for military change.

ORGANISATIONAL MILITARY CHANGE AND ITS ANALYSIS

In addition to restructuring after the 1962 war with China and as a result of the 1975 committee recommendations, the army undertook organisational changes after the 1999 Kargil conflict and Operation Parakram in 2001, besides changes related to the ongoing transformation.

However, the case studies selected fulfil the broad parameters for organisational military change better than some other more recent attempts at change management by the army. As an illustration, the changes after Operation Parakram were limited to realignment of boundaries of formations opposite Pakistan, by raising Headquarter (HQ) 9 Corps as well as HQ South Western Command. However, this did not result in accretion of force levels and was more an exercise in reallocation of resources to enable greater 'synergy' and 'create more reserves and enhance the inherent offensive defence capability in the theatre'.[12] A similar exercise had earlier been undertaken with the raising of HQ 14 Corps, based on the lessons learnt after the 1999 Kargil conflict. This assisted in improving command and control and surveillance capabilities.[13] The most recent

structural change began with the raising of 17 Corps, oriented towards mountain warfare, with its principle focus towards the border with China. However, given the evolutionary stage of this formation, an assessment of the same could suggest misleading conclusions. This is especially in light of the defence minister raising the possibility of cutting down on the size of the corps.[14]

The change related to the raising of Rashtriya Rifles (RR) has also been excluded, despite this being a significant organisational shift, since it was primarily focused towards the sub-conventional threat in Jammu and Kashmir (J&K) and along the Line of Control (LoC) with Pakistan. This, however, forms a part of a separate article dealing with changes in the counter-insurgency environment in India. However, it would be pertinent to mention here that the RR battalions also have the potential to support conventional forces in a contingency, thereby appreciably enhancing capacities.

In contrast, the changes post-1962 led to an increase of the army by almost 33 per cent. It also saw the raising of divisions which were tailored to the needs of mountain warfare. The raising of a command HQ directly influenced the ability to employ these newly raised formations. In case of the changes post-1975, not only was the organisational structure transformed, the resultant innovations also had a lasting impact on the strategic thought of the army, which continues to guide subsequent adaptations thereafter. The 1975 report has not been declassified. This does constrain the study. However, references to the same in Gen Krishna Rao's book, *Prepare or Perish: A Study of National Security*, provide the requisite outline, which is also supported by the changes implemented until 2000.

Changes Post 1962 Sino-Indian War

The defeat against China in the 1962 war led to a series of organisational changes in the army. These changes took place at all levels and impacted the foot soldier as well as the overall structure of the army. An overview of the changes has been discussed here to better assess the nature of structural reforms undertaken. However, the analysis that follows is based primarily on the major organisational changes alone.

Three major structural changes took place which impacted the size and structure of the army. First, based on the recommendations of the army, the government gave sanction for increasing its size from 5,50,00 to 8,25,000.[15] Second, a large percentage of this force accretion included

the raising of divisions, tailored in terms of their organisation, equipment profile and training for mountain warfare. Of the six divisions initially raised, four were new mountain divisions and one plains division was converted to a mountain division.[16] There is a strong possibility of the final figure of the size of the army having been influenced by the scale of the United States' assistance that was being negotiated and finally agreed upon. This is indicated by the US discussions on the subject in 1963, wherein a figure of 8,00,000 seemed to be acceptable rather than the Indian demand for a 14 lakh man army.[17] Third, a new command HQ, Central Command, was set up in May 1963, headquartered at Lucknow, with an aim of better focusing on the threat from China.[18]

Three important directorates were also reorganised within Army HQs to bring in greater efficiency. The Weapons and Equipment Directorate was shifted from Master General of Ordnance to General Staff Branch, as was Military Survey from Engineer-in-Chief Branch. There was also an attempt to strengthen the Military Intelligence Branch, given past limitations observed.[19]

The army undertook the raising of Scout battalions for deployment in vicinity of the border with China in the northern and central sectors. The troops for these battalions were recruited from hill tribes in local areas and their role was similar to that of the Assam Rifles in North-East India along the border.[20]

The army also underwent a major upgradation schedule for increasing the capacity of its training establishments to cater to the increase in intake of officers and men alike. Under the emergency commission intake, 9,000 officers were granted commission commencing from November 1962 until October 1964. Officers training academies were established at Pune and Chennai in January 1963. Innovative schemes were introduced to recruit officers to the medical and engineering arms, including antedate seniority to cater for their length of service prior to commission, reservation of jobs in government service after release of emergency commission officers and university entry schemes. These measures saw the training capacity expand from approximately 5,700 to 40,000 over a short period of time.[21] Given the inexperience of fighting in mountains, there was additional stress on mountain and high-altitude warfare.[22]

The change in the organisation of the army would have been incomplete without the accompanying induction of weapons and equipment. Some of the major changes in this regard included the sanction to induct the 7.62 mm self-loading rifle, instead of the World

War II vintage .303. Short and medium-range mortars were introduced to improve the firepower of battalions. Mountain guns with high-trajectory firing capability were inducted. A decision was also taken to purchase both medium and light tanks. The army had 38, 68 and 15 per cent pre-1948 vehicles to include 3 tons, 1 tons and jeeps.[23] A decision was taken to modernise this fleet through induction of Tata Mercedes Benz 3 tons, Dodge 1 tons and Willys jeeps. An ordnance factory was established at Avadi to meet the additional needs of clothing and parachutes. In order to meet the needs of buildings to house additional formations and training establishments, 1,883 works projects were sanctioned under emergency provisions.[24]

The shortcomings noticed in the intelligence systems, supply of equipment, staff work procedures, physical fitness of troops and higher direction of war were also taken note of and changes were initiated. A Directorate of Combat Development was established under the General Staff Branch to review tactical concepts; develop organisations and materials in light of new tactical concepts; and for conduct of trials in formations and experimental formations.[25]

The changes were accompanied by equitable allocation of financial resources to undertake the envisaged changes. This is evident from the steep rise in defence expenditure immediately after the 1962 war (see Table 1).

The organisational changes were planned and suggested by the army, with influence of British and US defence advisers in terms of the equipping profile, since equipment for the mountain divisions was being provided by the US. This influence stemmed from their desire to ensure that the equipment would be used only against China and not Pakistan and the transfers would be just adequate for India to defend itself. This led Robert McNamara to indicate his disappointment to Chavan during his visit to India because of the long list of unjustified demands that had been proffered by the three services to the US representatives.[26] This was reinforced by declassified US papers, which suggested an unrealistic Indian plan for increasing force levels to a 1.4 million army with an annual budget of $1.8 million and an aid package of $1.4 billion.[28]

Table 1 India's Defence Spending (as percentage of GDP)[27]

Year	1962–63	1963–64	1964–65	1965–66	1966–67
Def Exp/GDP	2.56	3.84	3.25	3.38	3.07

Note: GDP: gross domestic product.

There was complete support from the government for implementation of these changes given the setback as a result of the military defeat.[29] Y.B. Chavan, the new Defence Minister who replaced Krishna Menon after the 1962 war, realised that a number of changes envisaged were being undertaken without a clear assessment of the country's strategic goals.[30] Having witnessed the lack of clarity in undertaking organisational changes, Chavan ordered a strategic assessment of India's military needs in order to structure the process of induction of military hardware as well as raising of new formations. This included an assessment based on inputs from the Ministry of External Affairs (MEA) and intelligence agencies.[31]

The confusion and lack of clarity in the process is reinforced by Palit, who was the Director Military Operations (DMO) during the 1962 war and was instrumental in preparing the suggested blueprint for the organisational restructuring of the army. According to Palit, the initial requirement was to equip 50 divisions.[32] However, this was revised to 25, 21, 16 and back to 21 divisions over a period of time, with little assessment of application of force.[33] He further alleges a lack of strategic understanding in the rationale for decision making by the senior leadership of the army, especially with reference to the expansion plans of the army.[34] Palit's assessment of the situation is echoed to an extent by General Taylor, Chairman Joint Chiefs of Staff from the US, who writes:

> In the case of the military program, there are as yet no agreed time-phased levels of force goals, no plan for the allocation of available or anticipated resources to the needs of the three services, and no determination of the kind and extent of foreign aid needed to augment domestic resources.[35]

Even as organisational changes were progressively implemented, these were constrained by service-specific planning. Palit offers a similar critique with respect to creating the new command HQ. He notes that these actions were based on spur-of-the-moment decisions on part of General Chaudhuri, without analysing the implications of co-locating them with the air force or practicality of operational effectiveness, thereby affecting joint planning and operations.[36]

The changes after 1962 can be characterised by a strategic culture which was essentially defensive. This not only reflects in the deployment of forces after the war but also in the hesitation to develop border areas, lest these were to be exploited by an invading China. The organisational

changes witnessed reflect this phase of India's strategic evolution and were possibly shaped by its influence.[37]

Reforms Post K.V. Krishna Rao Report

The government appointed an expert panel in 1975 to undertake, probably for the first time, a long-term perspective plan for the army.[38] The committee was headed by Lieutenant General (later General) K.V. Krishna Rao, with Major Generals M.L. Chibber and K. Sunderji as members and Brigadier A.J.M. Homji as secretary.[39] It was mandated to present a perspective till 2000. It was required to evaluate national security threats, propose a strategy against it, visualise the future battlefield, determine the size of the army and suggest an incremental build-up of forces.[40] Wide-ranging discussions were carried out by the committee with a number of agencies, including the Indian Space Research Organisation (ISRO) and Planning Commission. This ensured that it was able to collate a wide cross-section of views prior to making its recommendations. These changes aimed at improving the teeth to tail ratio of the army, making its organisationally lean even as it pursued modernisation.

This report followed up on the limited mechanisation of the army that had begun in 1969 with the induction of TOPAZ and SKOT armoured personnel carriers. As a result of the recommendations of the report, this received an impetus with the raising of the Mechanised Infantry Regiment on 2 April 1979, equipped with BMPs.[41] The real impact of these recommendations was felt when Sundarji took over as the Chief of Army Staff in 1986. By the end of his tenure, 23 mechanised battalions had been raised, most equipped with BMP-2 infantry combat vehicles (ICVs), thereby utilising the best technology available. More importantly, he provided the strategic moorings for employment of mechanised forces.[42] His vision laid the foundation for the transition of a World War II army to a modern force, with reliance on fast-paced operations and tenets of manoeuvre battle. This was facilitated by the raising of the Army Aviation Corps in 1986, induction of 155 mm Bofors guns and re-designating an infantry division as an air assault division and raising of Reorganised Army Plains Infantry Division (RAPID), with an enhanced component of armour and mechanised infantry.[43]

These changes, as in the case of the post-1962 organisational changes, were initiated by officers from the army. However, there is strong evidence that Sundarji was able to push one of the fastest induction process in the army based on his personal rapport with the Minister of State for

Defence, Arun Singh, and Prime Minister Rajiv Gandhi. According to Inderjit Badhwar and Dilip Bob:

> At no other time, except possibly the period just before the Indo-Pak conflict of 1971, has the Indian military and political leadership been so closely associated. Delhi's bold initiatives in power projections, its new diplomatic aggressiveness, its euphoric confidence is obviously correlated to the new rapport that Sundarji had established with the political high command.[44]

The impact of Sundarji's drive, strategic vision and close working relationship with the political elite created substantial changes in the army's organisational structure. Besides the acquisition of assets, it laid the foundation for mobile warfare and simultaneously propelled a change in the thinking of the army's leadership. These were based on a change in the army's doctrine as well. This shifted from defensive deterrence, witnessed prior to the 1971 war, to 'deterrence by punishment' during the 1980s, bordering on compellence.[45] This shift reflected the signs of a changing strategic culture in the army, which was injected by offensive thinking and a more robust approach to potential adversaries.

The changes were also accompanied by the willingness of the government to provide greater allocation of financial resources to facilitate the process. Defence expenditure during this period rose sharply to finance the structural changes (see Table 2), as seen from the period wherein most inductions took place. However, while the initial changes benefited from the generous financial outlays, subsequent years yet again witnessed a cut, which adversely impacted implementation of complementary changes like ensuring matching mobility of support echelons, thereby stalling the follow-up action. It also limited the accretion of forces on the border with China, thereby retaining serious shortcomings in the defence of the country, which is yet to be overcome despite decades of military planning.

While the committee benefited from wide-ranging interaction with other government agencies, it was saddled with an inherent limitation. The government, in its bid to assess long-term defence preparedness,

Table 2 India's Defence Spending (as percentage of GDP)[46]

Year	1982–83	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89	1989–90
Def Exp/ GDP	3.04	3.04	2.88	3.05	3.58	3.59	3.37	3.17

constituted different committees for all the services.[47] Inherent in this initiative lay seeds of service-specific modernisation, rather than a joint effort, which could have led to greater synergy and unity of action.

Yet another limitation witnessed suggests that even as the focus of military change clearly impacted the force structures of the army in the western theatre, inadequate structural changes accompanied this in the east. The inability to access the report limits an objective assessment on this issue. However, a recent article by Ravi Rikhye, a reputed analyst, especially of the period during which these changes were taking place, suggests that the restructuring did envisage similar changes to reinforce the capacity against China. According to him, Sundarji planned on 19 mountain divisions, in addition to four armoured, eight mechanised, seven RAPID and two airmobile divisions.[48] However, these changes were not implemented and the limitations along the border with China have remained a cause for concern.

<div align="center">ASSESSMENT OF MILITARY CHANGE</div>

The fundamental question that arises based on these case studies is: what were the drivers for military change; what leads to successful military change or, conversely, what led to the failure of the Indian Army to change?

Drivers of Military Change

The driver for organisational changes after the 1962 war was, quite clearly, the military defeat at the hands of China and the emerging operational environment. It led not only the military but also the political leadership to undertake changes that were aimed at restructuring the army. The objective of these changes was to ensure that the army was capable of defending the country against any future Chinese aggression. The overall structure of the army was also dictated by a potential two-front war, as was envisaged as part of the overall threat assessment. This was based on 'growing rapprochement' between China and Pakistan[49] and was further strengthened when both countries reached a boundary agreement in the Kashmir area held by Pakistan in early 1963.[50] According to Nehru, both China and Pakistan saw India as a common impediment and their interests were bound to converge in this regard.

> For the present, both these countries (Pakistan and China) feel that the major impediment in their way is India; therefore both have the

common objective of doing injury to India and humiliating her so that in future they can proceed for realizing their aims without this major obstacle.[51]

This assessment was reinforced by the US Ambassador to India, John Kenneth Galbraith, who questioned Pakistan's inclusion in the Southeast Asia Treaty Organization (SEATO) and Central Treaty Organization (CENTO), even as the Chinese were 'forming some kind of an axis with Pakistan.'[52]

Unlike the changes after 1962, which took place after a defeat, as argued by Posen, the 1975 report came up under very different circumstances. It followed the most complete military victory by India during the 1971 Indo-Pak War. It is therefore important to underline the context of events and circumstances that preceded and succeeded it, even as the changes were being implemented.

A scan of the international and regional environment provides a strategic backdrop to the changes envisaged. By 1971, Pakistan had become a front-line state of the US, having facilitated its overtures to China. This provided Pakistan with additional leverage with the US, as well as closer ties with China. Thereafter, in a major turn of events, the Soviet Union intervened in Afghanistan in 1979 and the US decided to contest the same through its proxies. In 1981, the Reagan government negotiated a $3.2 billion economic and military aid package for Pakistan.[53] It is not surprising that India's defence expenditure rose substantially from 1982–83, to maintain a military balance with Pakistan.

The shifting balance of power in favour of Pakistan in the region led to a closer Soviet–India relationship. While this was initially evident during the signing of the 1971 Indo-Soviet Treaty of Peace, Friendship and Cooperation, subsequently, the relationship was strengthened by supply of arms to India by Union of Soviet Socialist Republics (USSR) on favourable terms. However, this relationship was aimed at defending India's security interests rather than any military foray into Pakistan.[54]

India conducted a peaceful nuclear test in 1974. This became linked with Pakistan's growing determination to not only gain nuclear capability but also to pursue a nuclear weapons programme. Feroze Hassan Khan writes, 'After India's nuclear test, Bhutto set the nuclear weapons program into high gear, and from 1974 onward it was the highest national security priority.'[55]

According to Krishna Rao, the basis of the 1975 reforms process was inflationary pressures and rise in prices, the 1973 Arab–Israel War, leading

to the oil embargo, and finally, the technological advancements witnessed during the war.[56] He also suggests that this process began with an aim of modernisation and more efficient utilisation of resources, as seen from the subsequent improvement in tail to teeth ratio.[57] However, subsequent amendments to the perspective plan catered for 'significant build-up and modernization of the adversaries'.[58]

Given the changing operational environment, the organisational changes undertaken were driven by the desire to transform the army's posture against Pakistan from defensive to offensive defence.[59] The 1971 war provided an ideal backdrop for building the army's military edge. While it was buoyed by a resounding victory, however, it was also clear from the series of battles in the western theatre of war that the ability to make substantial gains was increasingly becoming limited as a result of extensive obstacle systems laid by Pakistan in the developed terrain, represented by the plains sector of Jammu and Punjab. It was perceived that the inability to make substantial gains in the Punjab sector could be offset by the option of pursuing mechanisation, which could militarily exploit the desert sector, further south. The offensive potential of armour was augmented by the availability of world-class technology from the Soviet Union in the form of BMP-1, followed immediately thereafter by the BMP-2, the first ICVs in the world.[60]

Thus, the principal driver for military change after the 1962 war and post-1975 reforms was not only the threat but, in a larger context, the overall *operational environment*. It is also clear from the changes post-1975 that the process was guided by the Krishna Rao Committee report; however, it underwent gradual changes in accordance with the evolving security environment in India's neighbourhood. The changes post-1975, which eventually gained pace in the 1980s, were supported by technological advances, especially related to the ICV platform. More importantly, India's defence relationship with the erstwhile Soviet Union gave it a quantum jump in mechanised warfare.

The resounding victory of the country in 1971 also had a positive impact on India's strategic culture, facilitating in its transformation from being defensive to offensive defence. This was primarily because India emerged as the pre-eminent power in the region and was comfortable with maintenance of status quo. It did not need an offensive approach to resolve differences with Pakistan and did not possess the capability to alter status quo against China. This operational environment also led to a complementary shift in the doctrinal approach of the army. While there is

inadequate evidence of such changes on the basis of official literature, yet the case studies suggest that India continued with its defensive doctrine against China, even as it shifted from dissuasive deterrence to deterrence by punishment against Pakistan. For a short period in the mid-1980s, it displayed an intent of forcing compellence, though this was not sustained thereafter.[61] These changes became the overarching basis for related organisational restructuring during the period.

Desirables for Successful Change

Writing on the issue of formulation of security policies, of which organisational restructuring is an integral part, K. Subrahmanyam relates weaknesses in our policymaking to five principle limitations. This includes a non-specialist political leadership; rapid turnover of services officers, thereby affecting their ability to conduct long-term planning; generalist civil service as well as intelligence services; and absence of a full-time focus by anyone in the government on national security.[62] With the establishment of the office of the National Security Advisor (NSA) and his affiliated secretariat, the last limitation has since been addressed to an extent; however, there is little change with regard to the others. In fact, tenures of senior officers in the army have only reduced further since Subrahmanyam wrote his piece.

The case studies reinforce some of these aspects. However, this article enlarges the scope of desirables for successful change and, in certain cases, modifies it to relate it to existing realities. Amongst these, the desirability of a specialist bureaucracy and intelligence agencies is undeniable, as is need for the political leadership to be more hands-on with regard to security issues. However, an attempt is made to look beyond these inherent limitations and focus on aspects which relate more to the domain of the armed forces.

For militaries to undertake successful military change, including the restructuring of its organisational structure, the two case studies suggest the importance of the following:

1. long-term strategic assessment;
2. support from political establishment;
3. visionary and committed military leadership;
4. need for strong institutional structures; and
5. follow-up action to take changes to their culmination.

In order to relate each of these requirements to the case studies and other associated conditions, a more detailed analysis of each is in order.

Long-term Strategic Assessment

Major structural changes in an organisation must be based on a net assessment, duly supported by high-grade intelligence, to analyse the challenges posed to the country. This, in turn, must become the foundation for its strategic assessment. Weaknesses of intelligence agencies and institutions within the army, and its operational follow-up, have remained a serious limitation in the past.

The long list of demands given by the army to the US after the 1962 war to begin with, as suggested both by Palit and Taylor, were not rooted in the reality of the situation and resources available. The strategic assessment demanded by Chavan should have been the basis for the eventual evaluation.

The quality of these assessments remains questionable in light of structural weaknesses that continued to exist even after efforts were made to overcome them after the 1962 debacle. The Joint Intelligence Committee (JIC), which reported to the Chiefs of Staff Committee, had already been found to be ineffective.[63] As a result, this was shifted to the Cabinet Secretariat. However, despite the mandate to post experienced intelligence officers to head it, according to Subrahmanyam, 'the first available ICS officer due for promotion as Additional Secretary was made the JIC chairman'.[64] A number of cases suggest that even where intelligence was available, the failure to carry out net assessment resulted in the inability to understand future challenges.

Limitations regarding intelligence-related operational assessment came to the fore in the immediate aftermath of the 1962 war, only to be repeated again thereafter. An Institute for Defence Studies and Analyses (IDSA) Intelligence Task Force report suggests that problems exist with both civilian and military intelligence organisations. These include rigidity and lack of coordination and technical know-how required in the context of modern-day warfare. It goes on to suggest: 'Most importantly, the external intelligence system is focussed more on political content, and less on military intelligence aspects. On the other hand, the military intelligence functions are confined to the services but have little authority to operate beyond tactical horizons.'[65] This anomaly clearly indicates the need for strengthening the military focus of external intelligence agencies

and expanding the role of military intelligence agencies, in terms of their role, resources available and upgradation of capacity of cadres.[66]

Besides the specific challenge of intelligence gathering, and more importantly its evaluation, it is equally important to integrate it as part of the army's long-term strategic net assessment. These assessments become the basis for perspective plans, which in turn will indicate the nature of organisational changes needed to maximise its benefits. This is best illustrated by the process of the army's mechanisation, which was accompanied by a thrust towards adopting tenets of modern warfare. The planning for the same commenced in 1975 and catered for the period till 2000.

The structured and systematic effort by the Krishna Rao Committee led to a realistic assessment of the future battlefield scenario. This was achieved by wide-ranging consultations by the committee and the professionalism of officers like Krishna Rao and Sundarji, who had the requisite understanding of matters strategic. The changes related to mechanisation correctly appreciated the limitations of attrition warfare by two armies which had near parity on the western front. Mechanisation-facilitated manoeuvre and exploitation of the underdeveloped terrain of the deserts overcame the heavy deployment and obstacle network of sensitive areas of Punjab. In contrast, Gen Chaudhuri envisaged the 'destruction of equipment' of the adversary in the absence of other viable alternatives.[67]

These changes could take place as a result of a clear understanding of the country's strategic direction from the political leadership, which is an essential prerequisite for action by the army.[68] The army benefited from this during the Sundarji era, which witnessed close cooperation between the political leadership and the army's top brass. However, even during this period, when this link broke, as was the case with the conduct of Operation Brasstacks, about which Rajiv Gandhi was possibly unaware, decision making was compromised.[69]

The case study, while highlighting the importance of a clear strategic perspective, reinforces the need for periodic review of the strategic assessment as also follow-up assessments. These can best provide guidance to the armed forces if followed up as a regular feature and in the form of a tri-service vision, duly supported by both government and non-government institutions.

Support from Political Establishment

Very often, the political leadership is considered the reason for the existing weaknesses in India's defence structure, and therefore also a reason for its inability to reform and change.[70] However, the two case studies suggest a different reality. Both instances of organisational restructuring were overseen by political leaders who are widely considered to be amongst the most involved and effective. Y.B. Chavan, despite his inexperience in matters related to defence, built a cohesive senior leadership and galvanised the armed forces.[71] He provided the necessary support for the expansion of the army and its equipping. Similarly, Rajiv Gandhi and Arun Singh were both closely involved with building the defence forces and supported the mechanisation process. Government representatives negotiated with countries which supplied the necessary hardware for equipping newly raised formations of the army.[72] An attempt was made to build long-term capacity of the army through industrialisation of defence production, which was given the necessary impetus.[73]

One of the critical components of political support is adequacy of financial outlay for major organisational changes. Both the case studies suggest that the government was willing to meet the financial requirements for these changes, as is evident from the hike in defence expenditure. This point needs greater emphasis in the present context since it is likely to have an impact on present and future structural reorganisations. Two factors deserve to be placed in perspective in this regard.

First, unlike the past when the government allowed a major increase in defence budget to cater for restructuring, the same has not been witnessed in case of the ongoing transformation of the army. The cost of raising an additional corps by 2018–19 has been estimated at 64,678 crores.[74] This implies that the army could be forced to partially readjust resources from within to cater for this increase. This is likely to weaken the existing deficiencies in reserves and war wastage reserves, which are essential to maintain a battle-worthy army. Second, major organisational restructuring has led to an increase in the size of the army in the past. The Indian Army, which increased its numbers from 5,50,000 to 8,25,000 after the 1962 war, further increased its numbers thereafter to a strength of approximately 11 lakh at present.

In the present context, the raising of 17 Corps will lead to a further increase in the strength of the army. As a result of this sustained increase in numbers, the army is being forced to allocate a larger percentage of

its budget to revenue rather than capital expenditure, thereby affecting modernisation. The demand–allocation gap in defence outlay has increased from 9 per cent in 2009–10 to 26 per cent in 2014–15 and the revenue budget is approximately 80 per cent of the 2015–16 army budget allocation.[75] In the near future, these numbers will come under even greater strain with the government having to allocate additional funds for meeting the demands of the 7th Pay Commission. This places a question mark on the ability of the government to support the nature of organisational changes that have been planned in the recent past. It also requires the army to review its policy of employing increasing numbers in the quest for ensuring security, wherein, quite clearly, this is likely to come at a cost of its modernisation efforts.

Some of the modernisation plans suggest a system of 'save and raise', which essentially requires adequate savings from within the system to undertake restructuring. From a political perspective, this approach is practical since it ensures a ceiling on military expenditure. However, it runs the risk of stunted restructuring. It would be a better approach to outline capability objectives and achieve these in stages within existing financial constraints, since this better reflects the balance between ends and capacities.

Political support for military change cannot be taken for granted. The case studies indicate, especially with relation to the post-1975 reforms, that it is equally important for the military leadership to have the ability to win the trust and support of political leaders through a realistic assessment of major changes and its implications on the defence preparedness of the country.

Visionary and Committed Military Leadership

In the absence of desirables like specialist political leaders and bureaucracy, the onus of providing professional direction for long-term military planning rests with the three services. This, as per existing literature, remains the case to the extent that 'operational directives are usually drafted in Service headquarters. They then go to the ministry for vetting, and are grandiosely issued as Defence Minister's operational directives to the Services.'[76]

The two case studies reflect on organisational changes in this regard. While visionary military leadership was evident in case of the changes post-1975, the 1962 changes, despite having a more limited scope of creating defensive deterrence, remained constrained by the army preparing to fight

the previous war.[77] It clearly illustrates that making incremental structural changes is not difficult. However, the ability to combine such changes with the intellectual vision and commitment to create a paradigm shift in successful war fighting is a challenge. Leaders like Sundarji not only provided visionary leadership but also his commitment to the changes envisaged created a class of middle-rung commanders who rose in the hierarchy to take forward the momentum created by him.

This raises the issue of the organisation's ability to throw up visionary leadership. The system seems to be constrained by a number of factors. First, the professional military education (PME) system existing in the army has failed to groom leaders with the capacity to function as strategic commanders. The system consistently fails to transform many brilliant tactical commanders into operational and strategic visionaries.[78] This is essentially because of the tactical orientation of instruction during formal teaching that focuses on rote learning rather than holistic understanding of issues and a very weak theoretical framework to enable understanding of issues beyond the limited scope of military experience. Harsh Pant attempts to identify the aim of PME and its relevance in the Indian context. He writes:

> The aims of modern PME should be to: develop the military officers' knowledge and understanding of defence in the modern world; demand critical engagement with current research and advanced scholarship on defence and its relationship with the fields of international relations, security studies, military history, war studies and operational experience; encourage a systematic and reflective understanding of contemporary conflicts and the issues surrounding them; promote initiative, originality, creativity and independence of thought in identifying, researching, judging and solving fundamental intellectual problems in this area of study, and develop relevant, transferable skills, especially communication, use of information technology and organisation and management of the learning process. Indian PME lacks every single one of these dimensions.[79]

The experience post-1962 can be attributed to the limited experience of the senior army hierarchy and the early evolutionary stage of operating in a combined arms environment. In contrast, the reforms post-1975 were facilitated by self-taught leaders like Sundarji.[80] However, the overall limitations in PME are bound to reflect on future ability of leaders to provide direction through organisational changes.

Second, besides the limitations of PME, the lack of opportunity and exposure in the policy framing environment constrains the strategic outlook of the senior army leadership. This stems from the failure to adequately integrate officers within the policymaking structure of the Ministry of Defence (MoD).[81] It results in limited exposure to the policy formulation process at the national level, even though they may be posted in the Army HQs. This, in turn, impinges on their decision-making ability, which is exposed when they finally take up senior positions as principal staff officers, army commanders, vice chiefs and chiefs of the army. This limitation is further accentuated by the short tenure of officers in their appointments, which limits their ability to understand complex policy framework procedures, especially those related to procurements. Hasnain notes:

> Simply put, if an officer spends 33 years below general rank, it obviously leaves him six to seven years to contribute at the senior ranks where he commands for short periods and assumes very high responsibility in an unacceptably short time, leaving inexperienced officers and staff at higher ranks.[82]

Third, conversely, since the army brass is not an integral part of the policy planning process in the MoD, it also affects the ministry's ability to take considered decisions on military matters, including organisational changes, given the limited exposure of the bureaucracy to service issues. As a result, 'there is no established political lobby arguing for change and reform', leaving the emergence of the process from the military establishment itself.[83]

Strong Institutional Structures

The process of developing a long-term strategic assessment is dependent in large measure on the structural strength of institutions in an organisation. While visionary leadership is an ideal requirement, as is specialised bureaucracy and political leadership, however, these are conditions that cannot be guaranteed. However, institution building can guarantee a high order of capability of its organisations, which in turn are responsible for doing the spadework for structural changes and policy formulation.

In the past, the weakness of the JIC have been identified. Similarly, the inability of the services to function as integrated and joint organisations has also been witnessed. The weakness of the office of the Chairman, Chiefs of Staff Committee is well documented.[84] Besides these joint institutions,

the army has also failed to create a strong institutional mechanism as part of its intelligence, training and perspective planning function.[85] This affects the staff work required for developing a strategic vision and as a result, organisational changes.

The failure to carry out joint assessment, planning and implementation of changes is evident clearly in case of changes after 1962. While this problem is not as acute after 1975, yet its manifestation is clearly evident.[86] Given that even the existing levels of integration are inadequate, this clearly highlights the deeply entrenched propensity of the three services to zealously guard their domains and function within their service-specific confines.[87] The army's endeavour to undertake transformation, as indicated by the former Chief of the Army Staff, Gen V.K. Singh, yet again seems to be a single service endeavour, which in the present day and age cannot result in either efficiency or effectiveness without joint planning and execution.[88]

The process of service-specific functioning is saddled with the crippling inability to arbitrate on differences of the three services leading to decision making by consensus.[89] This is not the most efficient way forward given the limited understanding of the political elite on such issues, and eventually the generalist bureaucracy acting as the arbiter. The absence of the Defence Minister's Committee, a formal forum for resolving professional issues, accentuates this anomaly. At times, this has led to issues related to the three services being raised to the level of NSA or even the Prime Minister's Office, a situation that does not bode well for any form of restructuring.

Amongst the institutions which have deliberated upon defence-related issues is the Parliamentary Committee on Defence. It has since long provided parliamentary oversight and given recommendations that have had the potential to guide military change. However, these have received inadequate attention. The possibility of strengthening this mechanism can fill the existing gaps in governmental support, as also provide a link between the elected representatives and the armed forces.

Follow-up Action

Organisational changes are often part of a long-term plan and take time to fructify. In order to achieve optimum efficiency, they also need to be suitably wedded with doctrinal concepts and technological infusion. This implies that the process has to be guided by a series of leaders of the army's top brass to take these changes to their intended state of

effectiveness. This was visualised in case of the 1975 reforms, wherein the vision to implement changes till 2000 was commenced by Krishna Rao and carried forth by Sundarji. Even in this case, changes were stalled as a result of limited funding in the 1990s, which affected implementation of matching mobility to support echelons of the mechanised forces. In contrast, mountain divisions failed to evolve over the years, as a result of which they reached a state of limited effectiveness over a period of time.[90] The aim to achieve improved teeth to tail ratios was an objective initially pursued studiously with reasonable success. However, over a period of time, the ability to implement strong measures to carry this forward has not been equally effective.

Follow-up action is not merely associated with the army. It is also critical to ensure that infrastructural limitations placed are simultaneously addressed to ensure that military changes can be effective. The changes post-1962 were not accompanied by creation of requisite infrastructure along the border with China. The limitations in this regard continue to remain a challenge, even after five decades, wherein the existing road communication network and aviation support assets lag behind the force capabilities of the army.

A similar limitation exists in terms of the ability of the army and its support institutions to develop indigenous capabilities to support military change, as a follow-up of organisational restructuring. The Indian Navy has displayed this capability through its design bureau, which has facilitated the process of ship building.

CONCLUSION

This article does not delve into the assessment of ongoing and future military change in the Indian context. However, it does provide pointers that must be taken into consideration before undertaking major changes.

An assessment of drivers of military change suggests that the prevailing and future operational environment and technology are likely to influence changes in the army's organisation, which is in consonance with Rosen's prognosis. However, organisational change was also influenced by changes in India's strategic culture and doctrines during the studied periods. The ongoing transformation is taking place at a time when all armies of the world have been impacted by information technology and scientific advances. The method of waging war has already undergone a change. However, as some of the lessons from previous changes suggest,

exploitation of the ongoing technological revolution should not end up as a series of adaptations, which fail to add up and create the requisite shift in war fighting. It needs to create a paradigm change, which in turn demands a rethink regarding the structure of existing organisations.

Similarly, the operational environment is also undergoing a shift, both along the borders and beyond. This is being accompanied by changes in the manner of war fighting by potential adversaries. An essential prerequisite for restructuring organisations in the army is the nature and magnitude of threats that are likely to emerge in future. It is also influenced by the role envisaged for the army as part of the larger national effort in military operations other than war, given India's responsibility as a security provider in the region.

These drivers must facilitate a long-term strategic assessment, accompanied by a realistic understanding of national objectives in relation to existing and future military capacities, based on the availability of resources. These factors must thereafter shape the organisational changes to help implement stated objectives.

However, for these drivers to positively impact change management, the desirables discussed in the article must deliver through not only the actual process of change but also by creating the requisite capacities amongst the military leadership, institutions of the army, joint services and overall defence establishment to support the process. The Indian Army's leadership and institutional ethos reflects its organisational culture. While this very culture has delivered on maintaining the institution as a robust instrument of national pride and reliability, yet, limitations related to change management demand a transformation in the processes that nurtures military leaders and builds institutions.

For any major change to be implemented successfully, the army must look beyond its comfort zone. The onus of absorbing change lies with the rank and file. The army's past record suggests that they have done so without hesitation. Therefore, it is the senior hierarchy which must do the intellectual heavy lifting to provide the fundamental underpinnings for organisational changes.

The changes post-1975 began with the mandate to improve the teeth to tail ratio of the army and reduce its strength. The report proved that effectiveness need not become captive to a larger force alone. The prevailing circumstances indicate that while change is imperative, it must break from the past case of increase in manpower and budgets if effectiveness has to be achieved. Perforce, this must flow from a modern

force, which is derived from lower outlays for revenue expenditure, rather than demands for increased budgets, which is unlikely to be met given other competing priorities.

Military change cannot happen merely because the army demands or needs it. It also requires a strong commitment of the political elite to support such a change and ideally, with the army as a partner in the process. And this process must commence with a clear enunciation of national objectives to enable the army to plan based on a definite end state.

Notes

1. Stephen Peter Rosen, *Winning the Next War: Innovation and Modern Military,* Ithaca: Cornell University Press, 1991, p. 2; emphasis in original.

2. Theo Farrell and Terry Terriff, *Sources of Military Change: Culture, Politics, Technology*, Colorado: Lynne Rienner Publishers, 2002, p. 4.

3. The quote of change being the only constant in life is attributed to Heraclitus, an ancient Greek philosopher.

4. Janine Davidson, *Lifting the Fog of Peace: How Americans Learned to Fight Modern War*, Ann Arbor: The University of Michigan Press, 2010, pp. 10–11, available at https://www.press.umich.edu/pdf/9780472117352-ch1.pdf, accessed on 29 April 2015.

5. Farrell and Terriff, *Sources of Military Change*, n. 2, p. 5.

6. Nitin Gokhale, 'India's Doctrinal Shift', *The Diplomat*, 25 January 2011, available at http://thediplomat.com/2011/01/indias-doctrinal-shift/?allpages=yes, accessed on 26 August 2015.

7. The text of the K.V. Krishna Rao Committee is classified and not available in public domain. The article utilised the limited availability of its charter and related it to the organisational changes that took place in the succeeding years.

8. Farrell and Terriff, *Sources of Military Change*, n. 2, pp. 10, 12.

9. Ibid., pp. 10–11.

10. Barry R. Posen, *The Sources of Military Doctrine: France, Britain and Germany between the Wars*, Ithaca: Cornell University Press, 1984, p. 57.

11. Rosen, *Winning the Next War*, n. 1, p. 21.

12. J.J. Singh, *A Soldier's General: An Autobiography*, New Delhi: HarperCollins, 2012, p. 193.

13. See V.P. Malik, *Kargil: From Surprise to Reckoning*, New Delhi: HarperCollins, 2006, pp. 354–55.

14. 'Mountain Strike Corps Size to be Cut', *Deccan Herald*, 14 April 2015,

available at http://www.deccanherald.com/content/471696/mountain-strike-corps-size-cut.html, accessed on 24 April 2015.

15. Ministry of Defence, Government of India, *Annual Report 1964–65*, New Delhi, p. 17; and K. Subrahmanyam, 'The Ghosts of 1962', in *Shedding Shibboleths: India's Evolving Strategic Outlook*, New Delhi: Wordsmiths, 2005, p. 323.

16. See Ministry of Defence, Government of India, *Annual Report 1963–64*, New Delhi, p. 23. After this initial raising, the total number of mountain divisions increased to 10.

17. 'Document 293, Summary of Record of the 514th Meeting of the National Security Council', Washington, 9 May 1963, *Foreign Relations of the United States, 1961–1963, Vol. XIX, South Asia*,available athttp://history.state.gov/historicaldocuments/frus1961-63v19/d293,accessed on 22 March 2015.

18. A.L. Venkateswaran, *Defence Organisation in India*, New Delhi: Publications Division, Ministry of Information and Broadcasting, Government of India, 1967, pp. 146–47.

19.. See Ministry of Defence, *Annual Report 1963–64*, n. 16, p. 22.

20. Ibid., p. 23.

21. Venkateswaran, *Defence Organisation in India*, n. 18, pp. 205–08.

22. See Ministry of Defence, *Annual Report 1963–64*, n. 16, p. 21.

23. 3 tonne and 1 tonne vehicles denote their load carriage capacity.

24. See Ministry of Defence, *Annual Report 1963–64*, n. 16, pp. 36–39.

25. See Ibid., p. 22.

26. Based on a personal interaction with R.D. Pradhan, former Principal Secretary to Y.B. Chavan, former Defence Minister of India, on 22 March 2015.

27. Jasjit Singh, *India's Defence Spending: Assessing Future Needs*, New Delhi: Knowledge World, 2000, p. 23.

28. 'Document 283, Memorandum for the Record', Washington, 25 April 1963, *Foreign Relations of the United States, 1961–1963, Vol. XIX, South Asia*, available at http://history.state.gov/historicaldocuments/frus1961-63v19/d283, accessed on 22 March 2015.

29. See Jawaharlal Nehru, 'Letter to Chief Ministers of April 14, 1962', in G. Parthasarthi (ed.), *Letters to Chief Ministers: 1947–1964, Vol. 5: 1958–1964*, New Delhi: Government of India, 1989, p. 585; and Jasjit Singh, *The Icon: Marshal of the Air Force Arjan Singh, DFC,* New Delhi: KW Publishers, 2009, p. 137, who confirms the doubling of the defence expenditure after the war to meet the modernisation needs.

30. R.D. Pradhan, *Debacle to Resurgence: Y.B. Chavan*, New Delhi: Atlantic Publishers and Distributors, 2013, pp. 2010–11.

31. Based on a personal interaction with R.D. Pradhan, former Principal Secretary to Y.B. Chavan, former Defence Minister of India, on 22 March 2015.

32. D.K. Palit, *War in the High Himalayas*, New Delhi: Lancer International, 1991, p. 380.

33. Ibid., p. 403.

34. Ibid., pp. 403, 407–09.

35. 'Document 348, Memorandum from the Chairman of the Joint Chiefs of Staff (Taylor), to Secretary of Defense McNamara', 23 December 1963, *Foreign Relations of the United States, 1961–1963*, Vol. XIX, South Asia, available at http://history.state.gov/historicaldocuments/frus1961-63v19/d348, accessed on 24 March 2015.

36. Palit, *War in the High Himalayas*, n. 32, p. 372.

37. Ali Ahmed, *India's Doctrine Puzzle: Limiting War in South Asia*, New Delhi: Routledge, 2014, pp. 38–39.

38. K.V. Krishna Rao, *Prepare or Perish: A Study of National Security*, New Delhi: Lancer Publishers, 1991, p. 400.

39. Ian Cardozo, *The Indian Army: A Brief History*, New Delhi: United Service Institution of India, 2005, p. 159.

40. Ibid.

41. Indian Army, Evolution of Mechanised Infantry, available at http://indianarmy.nic.in/Site/FormTemplete/frmTempSimple.aspx?MnId=dBeaewznZhW5edwodwN7Dg==&ParentID=bEltdB/PwPcT8w3ACPSSYQ==, accessed on 26 August 2015.

42. The army pamphlets on combat group employment were published for the first time in the early 1980s and were followed by armoured division in battle in the early 1990s.

43. See Inderjit Badhwar and Dilip Bob, 'General K. Sundarji: Disputed Legacy', *India Today*, 15 May 1988, available at http://indiatoday.intoday.in/story/general-sundarji-leaves-behind-a-legacy-most-fiercely-disputed-in-the-history-of-the-army/1/329290.html.

44. Ibid.

45. Ahmed, *India's Doctrine Puzzle*, n. 37, pp. 41–45.

46. Singh, *India's Defence Spending*, n. 26, p. 23.

47. See G.M. Hiranandani, *Transition to Eminence: The Indian Navy 1976–1990*, New Delhi: Lancer Publishers and Distributors, 2005, pp. 158–59.

48. Ravi Rikhye, 'Why Indian Army Looks Weak in Front of China', *DailyO*, 12 August 2015, available at http://www.dailyo.in/politics/indian-army-1965-war-72nd-mountain-division-china-pakistan-arms-ammunition-modernisation/story/1/5613.html, accessed on 14 August 2015.

49. See Ministry of Defence, *Annual Report 1963–64*, n. 16, p. 2.

50. See Nehru, 'Letter to Chief Ministers of April 14, 1962', n. 29, p. 573. India protested the demarcation agreement on 26 January 1963.

51. See Ibid., p. 573. India protested the demarcation agreement on 26 January 1963, p. 596.

52. John Kenneth Galbraith, *Ambassador's Journal*, London: Hamish Hamilton, 1969, p. 434.

53. K. Alan Kronstadt, 'Pakistan–U.S. Relations', *CRS Issue Brief for Congress*, 14 May 2004, available at http://fpc.state.gov/documents/organization/32840. pdf, accessed on 28 April 2015.

54. For a detailed account of India's defence purchases from Soviet Union, see P.R. Chari, 'Indo-Soviet Military Cooperation: A Review', *Asian Survey*, Vol. 19, No. 3, March 1979, pp. 230–44, available at http://www.jstor.org/stable/2643691, accessed on 28 April 2015.

55. Feroze Hassan Khan, *Eating Grass: The Making of the Pakistani Bomb*, New Delhi: Foundation Books, 2013, p. 126.

56. Krishna Rao, *Prepare or Perish*, n. 38, p. 400.

57. Ibid., p. 406.

58. Ibid.

59. Based on an interview with Lt Gen Satish Nambiar, 3 November 2014, New Delhi.

60. 'BMP-2', *Weapons and Warfare*, available at http://weaponsandwarfare. com/?p=5249., accessed on 26 August 2015.

61. Ahmed, *India's Doctrine Puzzle*, n. 37, pp. 41–45.

62. K. Subrahmanyam, 'The Making of a Security Policy Structure', in *Shedding Shibboleths*, n. 15, p. 20.

63. Palit, *War in the High Himalayas*, n. 32, pp. 85, 176.

64. K. Subrahmanyam, 'Revamping Intelligence', in *Shedding Shibboleths*, n. 15, p. 74.

65. *A Case for Intelligence Reforms in India: IDSA Task Force Report*, New Delhi: Institute for Defence Studies and Analyses, 2012, p. 67.

66. Ibid., p. 68.

67. J.N. Chaudhuri, 'India's Problems of National Security in the Seventies', in *USI National Security Lectures*, New Delhi: United Service Institution of India, 1971, p. 12.

68. Vijay Oberoi, 'Need for Holistic Restructuring of the Indian Military', *Journal of Defence Studies*, Vol. 2, No. 1, Summer 2008, available at http://www. idsa.in/jds/2_1_2008_NeedforHolisticRestructuringoftheIndianMilitary_VOberoi.html, accessed on 30 March 2015.

69. 'Former PM Rajiv Gandhi was in Dark about Brasstacks Operations', *Deccan Chronicle*, 3 August 2014, available at http://www.deccanchronicle.com/140803/nation-current-affairs/article/former-pm-rajiv-gandhi-was-dark-about-brasstacks-operation, accessed on 29 April 2015.

70. Deepak Kapoor, 'Role of Private Sector in Defence', *India Strategic*, October 2013, available at http://www.indiastrategic.in/topstories3061_Role_private_sector_in_defence.htm, accessed on 29 April 2015.

71. Pradhan, *Debacle to Resurgence*, n. 30, p. 21.

72. Ibid. The author devotes a chapter each to Chavan's visits to three countries in a bid to buy weapons for the three services.

73. The establishment of ordnance factories, including the one at Avadi, is an example of this effort.

74. Rajat Pandit, 'Army Chief Reviews Mountain Strike Corps', *The Times of India*, 8 May 2014, available at http://timesofindia.indiatimes.com/india/Army-chief-reviews-mountain-strike-corps/articleshow/34795843.cms, accessed on 4 April 2015.

75. Laxman K. Behera, 'India's Defence Budget 2015–16', Institute for Defence Studies and Analyses Issue Brief, 2 March 2015, available at http://www.idsa.in/issuebrief/IndiasDefenceBudget2015-16_lkbehera_020315.html, accessed on 27 March 2015.

76. K. Subrahmanyam, 'Does India have a Strategic Perspective?', in *Shedding Shibboleths*, n. 15, p. 9.

77. The army's outlook was constrained by: the inability to integrate closely with the other services; following an attrition mindset; failure to adapt to mobile warfare; and failure to improve command, control and intelligence functions.

78. See K. Subrahmanyam, 'Structure and Personnel Policy of the Armed Forces', in *Shedding Shibboleths*, n. 15, pp. 64–65.

79. Harsh V. Pant, 'Bridging the Soldier–Scholar Divide', *The Hindu*, 4 June 2013, available at http://www.thehindu.com/todays-paper/tp-opinion/bridging-the-soldierscholar-divide/article4779787.ece, accessed on 26 March 2015.

80. Sundarji is not only an architect of India's mechanisation and concepts of modern warfare, he is also attributed with contributing significantly to India's nuclear doctrine. See Subrahmanyam, 'Does India have a Strategic Perspective?', n. 76, p. 8.

81. S.K. Sinha, 'Higher Defence Organisation', in *USI National Security Lecture—1990*, New Delhi: United Service Institution of India, 1991, p. 33.

82. Syed Ata Hasnain, 'Why the Indian Army isn't a Lethal War Machine Today'*DailyO*, 15 January 2015, available at http://www.dailyo.in/

politics/why-the-indian-army-isnt-a-lethal-war-machine-today-army-day-infrastructure/story/1/1512.html, accessed on 30 March 2015.

83. See Stephen P. Cohen and Sunil Dasgupta, *Arming without Aiming: India's Military Modernization*, New Delhi: Viking, 2010, p. 69.

84. See P.C. Lal, *Some Problems of Defence*, New Delhi: United Service Institution of India, 1977, pp. 74–75.

85. The failure is marked by short tenures of officers, their generic background and inadequate specialisation and the limited mandate of military intelligence.

86. See Cohen and Dasgupta, *Arming without Aiming*, n. 83, p. 43.

87. Vijay Oberoi relates it to the resistance amongst the services to let go of their 'fiefdoms'. See Oberoi, 'Need for Holistic Restructuring of the Indian Military', n. 68.

88. Gen V.K. Singh in an interview to NDTV; see 'Army must Set an Example: New Army Chief to NDTV', *NDTV*, 1 April 2010, available at http://www.ndtv.com/india-news/army-must-set-an-example-new-chief-to-ndtv-414148, accessed on 26 March 2015.

89. See Kapil Kak, 'Direction of Higher Defence—II', IDSA, available at http://www.idsa-india.org/an-jul8-1.html, accessed on 15 April 2015.

90. Rumel Dahiya, 'Modernisation of Infantry in India', *Journal of Defence Studies,* Vol. 4, No. 3, 2010, pp. 137, 144.