



## Managing the 3Ms of Military Readiness

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## **Summary**

Money, manpower and material (3Ms) determine a state's capacity to leverage its hard power for fulfilling its national security objectives. A deficiency or an over dose of any of these elements could create a structural imbalance and impact the development of desired military capabilities, and in turn, the desired levels of operational and structural readiness. India's historical experience is replete with instances when a single or combination of inadequacies in these elements had a catastrophic effect on the military outcome(s). While the historical assessment of India's "un-readiness" for war can be the subject of a separate examination, this issue brief focuses on the significance of three important elements of military readiness, namely, money, manpower and material, and broadly outlines an approach for their efficacious management in the future. The author argues that each factor plays a crucial role in the operational and structural readiness of the armed forces, and more importantly in concert with each other for delivery of readiness needs. However, in the Indian context, there is often a tendency to evaluate them in isolation and draw conclusions that might not be holistic and appropriate for addressing the military's readiness deficiencies.

## Introduction

Money, manpower and material (3Ms) determine a state's capacity to leverage its hard power for fulfilling its national security objectives. A deficiency or an over dose of any of these elements could create an imbalance and, in turn, impact the development of military capabilities and eventually the desired levels of readiness in battle. India's past military experience is replete with instances when a single or combination of inadequacies in these elements had a catastrophic effect on the military outcome. Clearly, the 1962 India-China war proved to be a disastrous affair because of the utter lack of "war fighting material", apart from the foreign policy failures that hampered the effectiveness of the military. In the late eighties, the military intervention in Sri Lanka questioned the effectiveness of "military manpower" in tackling an ethnic insurgency. The Kargil intrusions of 1999 once again highlighted the large "material" deficiencies that had affected the preparedness of the Indian armed forces. A deeper analysis of India's military engagements since independence will throw up several gaps and deficiencies in the availability and the utilisation of money, manpower and material in conflict situations. While the historical examination of India's "un-readiness" for war can be the subject of a separate study, the focus here is on the importance of the elements of military readiness, namely money, manpower and material, and outlining a broad approach for their future management.

## Money

India's ambivalent attitude towards defence expenditure in the past decades is evident in the fluctuating allocations. The budgetary allocation in recent years has been pegged at around two per cent of GDP, and as per the thirteenth finance committee report, it is expected to fall to 1.76 per cent in FY 2014-15. However given the northward direction of the military expenditure of India's principal adversaries, the necessity to invest in requisite war fighting capabilities and the maintenance of operational efficacy become inescapable. It is thus essential to make an assessment of the current trends in India's military expenditure, and the necessity of making suitable changes in the future to achieve the desired readiness levels. As per the figures available, India's official defence spending has gone up tenfold in the last two decades or so. The annual expenditure which stood at Rs. 14,416 crore in FY 1989-90 has risen to Rs. 1,47,344 crore in FY 2010-11. It is not therefore surprising to note that India today stands among the ten largest military spenders in the world. However, in terms of per capita military expenditure, it is still very low and is pegged at some 21 dollars per citizen (as against the global average of \$183). Given the extended frontiers both continental and maritime, budgetary allocations need to be consistent with the external and internal challenges faced by the country's armed forces. The issue assumes greater significance in the context of the ability of India's principal adversaries to ratchet up their defence expenditures. China has the resources to internally fund its military modernisation, while Pakistan relies on the US military aid that it receives as part of its support for the global war on terror. Some \$12-19 billion have reportedly

been received by Pakistan between the years 2002 and 2008, and an additional amount promised under the AfPak policy, which could degrade the conventional military edge that the Indian armed forces possibly enjoy. It is therefore not surprising to note that the US military aid to Pakistan has evoked much concern in Indian domestic circles, and consistent calls for raising the defence budget deserves a better appreciation.

In this context, an understanding of the country's defence funding assumes salience. Historically, the revenue component of the defence budget has accounted for a major share of India's military expenditure. But in recent years, this trend has been changing rapidly. For instance, the revenue to capital expenditure ratio has substantially narrowed from 70.7: 29.3 in FY 1989-90 to 54.5: 45.5 in FY 2008-09. Among the three military services, the Indian air force continues to be the most capital intensive and accounts for nearly 40 per cent of the total capital expenditure, while the Indian army and navy are at par with each other (27.8 per cent and 25.2 per cent, respectively in 2008-09). With regard to the revenue budget, the allocation is land force-centric because of its sheer size when compared to the other two services. For instance, in the year 2008-09, the inter-service revenue budget share stood at a ratio of 65.4: 13.0: 19.6 for the army, navy and air force, respectively. The revenue budget is expended on pay, allowances and purchase of stores, and to a lesser extent on military transportation and works. Any reduction in revenue expenditure can only be possible if this budgetary allocation is utilised and managed appropriately. A lean and mean force fashioned to meet the security challenges and threats in the Indian context could enable some scaling down of the revenue expenditure, and in turn, ensure increased availability of resources for capability development.

On a separate note, the increase in budgetary allocation in recent years under the capital head has led to some big ticket purchases by the navy and air force, though most are still in the pipeline. Notwithstanding this, the capital budget utilisation too is riddled with problems. These not only include the inadequate prioritisation of envisaged capital acquisitions, but also under-utilisation of capital funds that in the past have ranged between Rs. 1500 and 6500 crore. These have largely been in the case of air force and navy, which have severely limited their readiness. Several experts including defence policy makers and practitioners attribute this inadequacy to the inefficiencies of the defence procurement process. The Comptroller and Auditor General (CAG) attributes this to several factors, including the delay in approval of the long term perspective plans, deficiencies in the formulation of the qualitative requirements, inadequate vendor survey and identification, lack of objectivity in technical and commercial evaluation, inordinately large number of processing points, and the multiplicity of dealing agencies and with dispersed centres of accountability. At yet another level, and despite the Group of Ministers (GoM) recommendations issued in 2001, and creation of the Defence Acquisition Council (DAC), the capital acquisition process continues to suffer from several inadequacies be uneven in the Indian armed forces, and unable to deliver on the country's military readiness needs.

The challenge today, therefore, is to ensure the effective utilisation of the budgetary allocations both under the capital and revenue heads. Three issues assume importance here.

- = First, it is important to examine whether there is any scope for the re-balancing of the allocations under the capital and revenue budget heads in the current circumstance. Clearly, an accretion in the capital head allocation at the cost of the military's revenue expenditure does not seem feasible because of the large pay and allowances disbursements, and expense on account of purchase and maintenance of stores that come under this head. A reduced budgetary liability on these two counts, i.e. manpower and purchase of stores alone, can release the much needed funds for military modernisation under the capital head. Some experts therefore argue that the right-sizing of the Indian armed forces, by way of technology substitution and re-setting the teeth to tail ratio (T3R), could release resources from the revenue head for capability development.
- = Second, the acquisition of big ticket military items currently underway both in the Indian navy and air force is likely to place heavy demands in terms of their life cycle costs in due course. This in itself will inhibit the scaling down of revenue expenditure, and in turn might even lead to the overheating of the revenue budget head. Acquisition of expensive naval platforms, next generation aircraft, modern battle tanks and artillery guns and missiles not only require mega sums of capital expenditure but also corresponding revenue expenditure on infrastructural support and life cycle costs to ensure their battle readiness. In other words, big ticket military acquisitions made under the capital head often tend to inflate the maintenance liabilities under the revenue head over a long period.
- = Since a rebalancing of the capital and revenue expenditure might look rather difficult, if not unlikely in the foreseeable future, a measured hike in the country's defence expenditure, as a percentage share of the national GDP, and as suggested by several military and non-military experts, remains the only alternative. This brings to fore the debate on the prudence of "additional" allocation of resources versus their "efficacious utilisation". Since organisational efficiency through efficacious utilisation of the allocated resources cannot be ushered in at short notice, it might be important to rely on the former till such time as the new business practices are put in place. As the Indian economy grows in size, the overall defence expenditure in the future, as a share of the GDP, could be calibrated to lower levels. In any case, this allocation will have to be within the larger rubric of national security and circumstances of the time.

At yet another level, there is scope for substantial improvement in the calculation, presentation and interpretation of the country's defence estimates. The annual defence estimates presently include six demands for grants (two, pertaining to "ministerial civil services" and "defence pensions", are excluded) that resource the capital and revenue expenditure of the services, ordnance factories, and research and development laboratories.

Though meant for military specific tasks these grants have over time been used for several quasi-military or paramilitary activities such as internal security, military farms, national cadet corps, resettlement and health schemes of ex-servicemen, road construction, etc., which might not rightly fall under the purview of the defence ministry. Repatriating some of these activities to the concerned ministries or appropriate agencies might free up some additional funds for defence under the revenue head, and thus contribute towards enhancing and maintaining war fighting capability in the future. It might also be a good idea to identify the “unspent” or “ill-spent” money under each of the revenue code heads, in order to rationalise and improve budgetary utilisation. In recent years, the publication and internal circulation of “part two” of the defence service estimates has afforded reasonable clarity on the military expenditure beyond capital and revenue budget heads. The long term answer perhaps lies in injecting greater clarity and transparency into this document in terms of the allocation and expenditure from capital-revenue ratio, to the main code heads under each category, to the sub and sub-code head levels.

A clear assessment of the country’s defence expenditure with regard to the resources allocated for capability development and maintenance in terms of skilled manpower and serviceability will be a first step towards identifying the problems that inhibit effective utilisation of the defence budget. Coupled with the possible re-balancing of allocations under the capital and revenue budget heads, the fund utilisation might become more efficient in the future. However given the technological leaps that war machinery is making world wide, it is debatable whether India’s military preparedness could be achieved with a less than three per cent allocation in the ensuing decade (the figure can be debated). The capacity of the Indian armed forces to squeeze out desired levels of readiness from whatever resources are placed at their disposal is another important aspect. Whether military readiness comes through judicious use of the allocated resources or earmarking a larger percentage of GDP for military expenditure is the big question. A combination of the two might deliver the desired readiness levels in the short to medium term.

## **Manpower**

Manpower is critical to the organisational efficiency and operational effectiveness of the armed forces. More importantly, the expanding definition of national security to include traditional and non-traditional security threats poses an important challenge to capacity building in manning levels. With both internal and external threats to India’s security - many of which cannot be clearly defined – the national security sector requires high levels of skill and competence ranging from expertise in complex military technologies to tasks which are paramilitary in nature. A mix of conventional and sub-conventional competencies is today a necessity in any military organisation. And therefore, flaws in the selection, training, motivation and compensation of the military manpower could seriously impinge upon the effectiveness of the armed forces. Two issues assume particular importance in this regard: the emerging international trends in the management of military manpower; and the man management challenges specific to the Indian context.

With economic leverages gradually displacing the importance of military power as an indicator of national strength, military force levels have gone down in numerical strength world wide. Prominent examples of this, in the past decade and a half, have been the force reviews in China, the United States and the United Kingdom. This can be ascribed to two reasons. First, military manpower is becoming exceedingly expensive to recruit, train and maintain, and two, the revolution in military affairs today enables a large number of manual military tasks to be performed by technology and civilian manpower. Advancements in military technologies such as intelligence, surveillance, and reconnaissance (ISR), precision guided munitions (PGMs), communication networks, and unmanned aircraft have drastically reduced the requirement for manpower on the battlefield. The technical threshold of the armed forces therefore needs to be much higher than it was a decade ago. Similarly, the increased availability of cost effective civilian solutions and technologies enables easy execution of the back room logistic tasks and combat support duties, thereby facilitating a lean and mean fighting force. The focus today is clearly on the technological or qualitative upgrading of the armed forces with particular emphasis on its quantitative downsizing. Reduction in manpower has other spin offs as well - most importantly, the integration of structures and services across the operational spectrum for greater synergy and effect. It is increasingly leading to the pooling of military resources world wide, as witnessed in multi-national conflict resolution and peace keeping operations. It has also necessitated an accretion in the world wide demand for Special Forces to address the emerging sub-conventional threats, and a commensurate increase in strategic lift capacities to project desired military capabilities over large distances in the shortest possible time.

The challenges to the management of military manpower in the Indian context are therefore manifold.

- = First, the acute shortage of officers, particularly in the case of the Indian army, is a cause for concern. The overall officer corps deficiency was pegged at 14,300 plus officers across the three services in July 2009. This shortage of officers continues to have a deleterious effect on the war fighting capability of the country and particularly on the army's performance in counterinsurgency operations. An overall shortage of 11,387 officers in the Indian army needs to be addressed before the negative effect on the performance of the combat units becomes manifest.
- = Second, the quantitative right sizing of the armed forces cannot be undertaken so easily because of the land and maritime and internal threats facing India. What is perhaps feasible is a reduction in the logistical components of the army, navy and air force, because it would be possible to contain the neighbourhood threats partly through existing or future civilian logistical capacities. Right sizing the teeth to tail ratio is a serious need of the hour.
- = Third, the technical threshold in the three services is still fairly low when compared with the Western militaries. While the navy and air force have attempted some

improvements in this regard, the army is still to undertake substantial organisational reforms to upgrade the technical threshold of its rank and file. Skill development today needs to transcend diverse military environments and competencies that a soldier might confront in the future.

- = Fourth, there is a need to invest in a military leadership that can think critically, communicate effectively, and lead the rank and file in dangerous and difficult situations. Leadership skills are particularly important for the officer corps, but they also cannot be ignored in the case of the non-officer rank personnel.
- = And lastly, there might be a need to build a well trained reservist cadre, on the lines of the National Guard in the United States, which can assist in bringing down the overall combat strength of the armed forces. The existing Territorial Army structure perhaps needs a serious revamp in terms of its organisational strength, capability, training and capacity to meet the paramilitary or quasi-military challenges of the future.

Above all, there is a need to ensure retention of skilled military manpower such as pilots, doctors and engineers through monetary incentives and a transparent promotion policy. A younger command profile especially among the frontline combat units and field formations is equally important for a ready and relevant combat force structure in the future.

## Material

The global defence industry has undergone a serious change in the last two decades. Military production has increasingly been concentrated in the hands of a few but large firms around the globe. More importantly, in the aftermath of the Cold War, the defence industry has also witnessed several mergers and acquisitions across national boundaries. The emergence of mega defence conglomerates such as Lockheed Martin, Boeing, Northrop Grumman, BAE Systems, Thales, etc. demonstrate this trend. These developments coincided with the liberalisation of the Indian economy and its commendable growth in real terms. However, despite these developments, the armed forces continue to be hobbled by the nation's inability to deliver on the readiness needs of today and tomorrow. The problem is essentially fourfold: lack of long term defence planning in the country; lack of indigenous research and development capacities; defence production; and paucity of infrastructure to maximise the operational effect of the existing military capabilities.

*Defence Planning:* Effective defence planning has suffered for several reasons in India. In the absence on any formal document or strategic guidance, the formulation of a coherent and consensus based defence capability development plan becomes difficult. Unlike in the West, where a national security strategy, and in turn the national military strategy and capability, are evolved on the basis of periodic intelligence assessments, the armed forces in India tend to project their capability needs on the basis of departmental analysis and assessment, or through technology development initiatives undertaken by the

country's scientific community. This is not to say that such exercises have not been undertaken, but their findings and recommendations need to be synthesised to produce a document which clearly and comprehensively outlines the country's military capability needs in the medium to long term. This planning will have to be multi-disciplinary and iterative in order to correctly balance affordability with the capability levels required. While affordability has definitely improved in recent years, the timely deliverability of material needs still remains a problem. Having relied on arms imports in the past, India is now seen to be exploring several ways and means to indigenise the production of critical defence technologies either by way of strengthening the ordnance factories and public sector undertakings or entering into public private partnerships. There are two schools of thought on India's future capability development; one supports indigenisation and the other strongly backs import substitution till such time internal production capacities are developed. In this regard, the Kelkar Committee in 2005 made a number of important recommendations with regard to self-reliance in defence industrial production.

*Defence Research and Development:* Readiness of the armed forces is intrinsically related to the country's capacity to deliver the material wherewithal indigenously or through imports. The material needs of the military can be seen at two levels: war fighting equipment, and the consumables including essential support services. In terms of critical war fighting equipment, India relies heavily on import of items such as ships, aircraft, tanks, guns and radars, etc. The weapon systems produced indigenously are low end items such as rifles, light machine guns, short range surveillance devices, select communication equipment, etc. Even in terms of consumables, the armed forces are dependent on ex-import sources for supply of certain categories of ammunition, rockets and missiles.

At yet another level, the DRDO which has been the torch bearer of defence research and technology has been responsible for identifying critical technologies, and working out the modalities for technology development. Unfortunately, its performance has been less than satisfactory. While it has displayed technological expertise in the development of long range missile systems, the real challenge lies in the development of advance weapon platforms and systems especially in the field of aeronautics, armaments and combat engineering, electronics, materials and combat related life sciences. And if home grown technology is to be the basis of India's military preparedness in the medium to long term, then the role and accountability of DRDO in achieving the same assumes importance.

Achieving self reliance in the field of capability development is also a function of research and development. Importantly, creating self reliance should not be the exclusive domain of a particular agency, but spread over other public and private sector players to promote competition and deliverability of readiness needs. Several parallel channels of technology development will have to be pursued to ensure timely fielding of future military technologies. Academia, fundamental research laboratories and private industry will have



an important role to play in this regard. As the public-private partnership model gradually evolves in India, there could be greater offloading of military research and development initiatives to such defence capability development consortiums.

*Defence Production:* The defence production units too need to be made responsive to the Indian military's preparedness needs. This aspect needs to be seen at three levels.

- = First, the ordnance factories that supply much of the military stores suffer from weak in-house research and development, production delays and quality compliance related issues, and these need to be corrected. Competition alone can make ordnance factories competent and accountable for the timely delivery of the military's combat readiness needs.
- = Second, the defence public sector undertakings will have to diversify the range and depth of defence production either indigenously or in partnership with the private sector both at home or abroad.
- = And third, these production agencies could even resort to outsourcing for delivery of select sub-systems or their integration where immediate operational readiness is a critical issue.

In other words, a more autonomous yet accountable defence production agency both in the category of ordnance factories and defence public sector undertakings will be essential to deliver the desired material readiness levels in the future. Opening up to the private sector will have to form an important component of this change. Simplistically speaking the shifting of emphasis from production technology to design technology, greater participation of the private sector, enhancement in responsiveness of the defence public sector enterprises, encouragement to joint design and development ventures, and a viable strategy to export arms to countries with common strategic interest could be means of improving the readiness of the armed forces. One expert argues that India needs to adopt a twin strategy with regard to ensuring readiness of war fighting equipment and material. First is the issue of scouting, identifying and pursuing opportunities in terms of joint development, production and marketing partnership for military technology and support services. Fostering strategic relationships with a wide range of countries and global defence industry players might help achieve this goal. And second, the domestic defence industry in the public sector should be subjected to an institutional overhaul to ensure a better product range, capacity and quality.

*Defence Infrastructure:* Strategic infrastructure in terms of road, rail and air networks is critical for timely mobilisation and deployment of the military components in times of crises. The issue becomes even more critical when these elements are lacking in density and capacity in the border areas or in distant island territories. Consequently, the limited availability of rail and road infrastructure in the forward areas constrains the inter-theatre

mobility of the field forces. In certain areas, and specifically due to the vagaries of climate and terrain, it becomes even more difficult to deploy troops and resources due to lack of forward air bases and helipads. Infrastructural development, which is largely a non-military exercise across the country, is singularly important for ensuring mobilisation related readiness of the armed forces. Military mobilisation is more a function of national infrastructural capacities in terms of rail, road and airports, and their gross handling capacities, rather than military transportation capacities alone. It therefore becomes important to take military imperatives into account while undertaking large scale infrastructural developmental projects at the national level. This, unfortunately, is not the case, which is evident from the fact that despite six decades of independence, the country still lacks in adequate road, rail and communication infrastructure along the border districts. India needs sufficient infrastructural capacities both in the continental and maritime context in order to ensure the maintenance of appropriate military readiness levels to meet unforeseen contingencies in the future.

### **Managing the 3Ms**

Effective management of the 3Ms alone can ensure the deliverability of military readiness - both operational and structural - in the Indian armed forces. A few issues of importance are as follows:

- = There is a need to include the study of military readiness as an important component of strategic and military studies in the country. Consequently, there will be a need to incorporate the subject matter expertise in the training curriculum of the three services, and other military courses. A theoretical foundation based on available literature in the open domain could be the basis for the initiation of middle and senior level military officers into the subject matter in the interim.
- = There is a case to train military officers in the readiness theories and practices commonly pursued by militaries in the West. The significant advances made by them in the field of military readiness, both continental and maritime, might be of some use in the Indian context. This exposure or interaction with foreign militaries could promote better management of money, manpower and material for achieving the desired operational readiness levels.
- = India also needs to create appropriate civilian and military structures to measure and oversee the readiness levels of the several components of the armed forces. This would entail defining the readiness standards, the metrics for measurement of the readiness standards, and the mechanisms to measure and report the readiness levels attained.
- = The military readiness measurement and reporting structures so created should become the principal agencies that ultimately testify to the designated legislative bodies about the operational or the structural health of the armed forces on a periodic basis. Most

importantly, the Lok Sabha standing committee on defence and the various departments of the ministry of defence and service headquarters would stand to benefit by the creation of such agencies or structures.

## The Way Ahead

The foregoing discussion establishes the importance of money, manpower and material in the delivery of military readiness. Each factor plays a crucial role in the operational and structural readiness of the armed forces and more importantly in concert with each other. However there is often a tendency to evaluate them in isolation and draw conclusions that might not be holistic and appropriate for addressing readiness deficiencies. Money ensures quality manpower and material in required numbers, and hence its optimum utilisation becomes extremely important. Budgetary support ranging between two and a half to three per cent of GDP for over a decade or so should put the modernisation of the Indian armed forces on track. Manpower is a function of aptitude, skills, and motivation, and ready availability. The problem areas are clearly identifiable and largely pertain to the staffing short falls in the officer corps, and across the board technological skills of the rank and file. Their technological competence will have to be increasingly upgraded through military training and organisational education initiatives, as more and more advanced weapon systems and war fighting platforms are inducted into the armed forces. More importantly, the advent of several disruptive, cyber and electronic warfare technologies places greater operational emphasis on the efficacy of combat units and formations. This might in due course even necessitate the integration of civilian expertise. Material or the ready availability of war fighting equipment and platforms is important, as are military consumables in terms of fuel, oil, lubricants, ammunition, missiles, spare parts, assemblies and support services to fight short and swift wars or even prolonged sub-conventional deployments. The provision of military wherewithal is an area of major concern as repeated establishment level reviews and departmental initiatives have so far been unsuccessful in addressing this problem. There is therefore an urgent need to pay attention to the deficiencies in defence research, development, production and acquisition.

## References:

1. Admiral Sureesh Mehta, 'Changing Roles of Navies in the Contemporary World Order with Specific Reference to the Indian Navy,' National Security Lecture, IDSA, August 13, 2008.
2. *SIPRI Yearbook 2208: Armaments, Disarmament and International Security*, Oxford University Press: Oxford, pp. 178, 208.
3. Laxman Behera, 'India's Defence Spending: A Trend Analysis,' *Journal of Defence Studies*, Vol. 3, No.2, April 2009.

4. Amit Cowshish, 'Potential Improvements in Defence Service Estimates,' *Journal of Defence Studies*, Vol. 3, No.2, April 2009.
5. R.K. Bhonsle, 'Human Resources in Security Sector: An Integrated model for the 21<sup>st</sup> Century,' *Journal of Defence Studies*, Vol. 4, No. 4, October 2010.
6. Gurmeet Kanwal, 'Salient Issues Affecting Defence Manpower in India,' *Journal of Defence Studies*, Vol. 4, No. 4, October 2010.
7. Richard Bitzinger, 'Developments in Major Arms Producing Countries:1998-2008,' *Journal of Defence Studies*, Vol. 3 No. 3, July 2009.
8. N.S. Sisodia, 'Planning for Sound Defence Budgets,' *Journal of Defence Studies*, Vol. 3, No. 2, April 2009.
9. Nabinita R. Krishnan, 'Critical Defence Technologies and National Security: The DRDO Perspective,' *Journal of Defence Studies*, Vol. 3, No. 3, July 2009.
10. N. Neihshial, 'Outsourcing and Vendor Development in the Indian Ordnance Factories,' *Journal of Defence Studies*, Vol. 3, No. 3, July 2009.
11. Deba. R. Mohanty, *Arming the Indian Arsenal: Challenges and Policy Choices* (New Delhi: Rupa and Co, 2009), pp. 159-163.