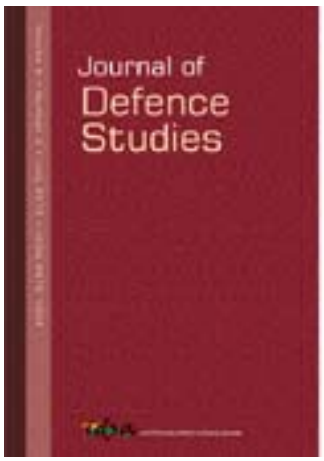



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**Reinventing Defence Procurement in India: Lessons from Other Countries and An Integrative Framework**


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# Reinventing Defence Procurement in India
## Lessons from Other Countries and An Integrative Framework

***Vandana Kumar****

*Over the past decade, defence capital acquisition reforms have enhanced standardization, transparency and bigger acquisition budgets. Yet the system grapples with delays, cost escalations and gaps in operational preparedness. This article explores the structure, process and cultural dimensions of the acquisition system, unpacking the underlying linkages between policy, planning, budgeting, strategic direction, and outcome-focused analytical decision-making—factors that influence effectiveness of the procurement system. The author makes a comparative study of the defence acquisition system of six countries, learning from the reforms and relentless pursuit of efficiency and effectiveness in USA, UK and France and the evolving systems of Australia, Brazil and Canada. The article seeks to steer the reforms debate beyond procurement procedures to performance management, strategic planning and risk management, towards delivering a culture of professionalism, innovation and outcome-focused decision-making to establish an acquisition system that best suits India's defence needs.*

### Introduction

The defence procurement system in any country is of great national importance as it has an impact on preparedness of national defence and even its ability to preserve its sovereignty and way of life. As expenditure on defence procurement is immense, it is important not only to the

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industry and the taxpayer, its effectiveness determines whether a country will be able to equip the service users with capability and reliability they need in a cost effective manner, consistent within the available budget.[1] Despite rigorous reform in its defence procurement system during the last decade, India continues to struggle with timely materialization of defence requirements, which impacts its defence preparedness. This article analyses key challenges in India's defence capital procurement system; examines defence acquisition systems of other notable defence spenders, drawing lessons from them; and suggests a framework for an effective procurement system for India. The objective is to steer the discussion on defence procurement reforms beyond reforms in procurement procedure and to recognize that an effective procurement system lies within the cusp of a structure and processes and is culturally aligned towards acheving the defined objectives. Finally, it is about finding ways to build the defence capital procurement system that best serves the needs of the men and women in our armed forces and the citizens they defend.

## Problems in the Indian Defence Capital Acquisition System

Practitioners, researchers, oversight agencies alike have lamented the delays in defence procurement in India and their impact on defence preparedness across the Army, Navy and Air Force. According to the Comptroller and Auditor General's (C&AG) report of 2011–12, 'the failure of the Army in defining the requirement of specific gun system had deprived its Artillery, for over a decade, from obtaining guns of contemporary technology for replacing the existing obsolete force level with guns of 45 caliber length in service. Army HQ took more than four years from April 1997 to July 2001 in deciding the actual requirement of guns...and the Army spent nearly five years in trial evaluation of a gun under development instead of a proven gun system.'[2]

The Defence Procurement Procedure (DPP) 2011 stipulates that processes from issue of Request for Proposal (RFP) to contract signing should be completed within 74–137 weeks. However, according to the Defence Secretary's statement before the Parliamentary Standing Committee on Defence (SCD) for its 2012 report, for Army procurements, RFP formulation takes nine months as against the stipulated four weeks; technical evaluation (TEC) takes six months against the stipulated 12 weeks; and General Staff (GS) evaluation 18 months against laid down 28–54 weeks taking the total time taken far beyond the laid down schedule.[3]

Commenting on the functioning of the aviation arm of the Indian Navy, the C&AG in its performance audit report of 2010–11 reported:

> The fleet being operated by the Indian Navy, at present, is critically short in terms of numbers and even after potential inductions during the period 2007–12, the Aviation Arm is likely to achieve only 26, 33 and 63 per cent of the force levels required in respect of long range reconnaissance, combat and antisubmarine warfare aircraft respectively. Indian Navy's air combat capabilities have been drastically reduced owing to availability of only one carrier, which is almost half a century old and is to be decommissioned in 2012. The Wing is also characterised by ageing and obsolescent assets. Attack capabilities of the already depleted aircraft fleet onboard the carrier has been restricted in the absence of fully functional radar and limited firing of practice missiles.[4]

In its report of April 2012, the SCD has noted with concern the shortages of ammunition, aircrafts, armament and artillery with the services. It has also raised a red flag on the Air Force being 11 fighter squadrons short of its required levels. It also pointed out that the Air Force will be able to reach the requisite level of 42 squadrons only by the end of fourteenth plan (2027), even as it grapples with obsolescence and aging fleet and induction not keeping pace with de-induction. The SCD has urged the Ministry of Defence (MoD) to take urgent steps to put aircraft procurements on the fast track and simplify procurement procedures to expedite other procurements.[5]

The Augusta Westland VVIP helicopters deal, which has once again shaken the country, also points to the time capital procurements take. The RFP for the choppers was first floated in 2002 and the contract was finally awarded in 2010 after revisions in height specifications and a re-tender in 2006.[6]

Often the bureaucratic system of decision-making has been blamed for the delays in procurement, attendant cost overruns and gaps in operational preparedness. *The Economist* recently made a telling commentary on India's defence procurement system:

> The absence of a strategic culture and the distrust between civilian-run ministries and the armed forces has undermined military effectiveness in another way—by contributing to a procurement system even more dysfunctional than those of other countries.[7]

## Key Challenges

Over the last decade the MoD has attempted to develop and stream line a comprehensive procurement system for Indian defence with the stated objective of ensuring expeditious procurement within the specified time frame by optimally utilizing the allocated budgetary resources while demonstrating the highest degree of probity, public accountability, and transparency in operations, free competition and impartiality. [8]

For capital procurements, a hierarchical procurement structure has been established with four pillars: the Defence Procurement Board, Defence R&D Board, Defence Production Board and the Defence Acquisition Council. Over the years, the DPP has evolved to standardize procedures towards greater transparency and fair play but it begs the question: *has the new system built capacity for timely procurements required for defence preparedness and best value for money?*

Over four decades ago, Niskanen suggested that the performance of different organizations differs essentially due to differences in their structure and incentives to their managers.[9] The defence reforms of the last decade have been largely focused on establishing a structure and fine-tuning processes. But, these reforms have failed to make systemic changes necessary for an effective procurement system severely challenged by complex structures, labyrinthine processes, and a culture of compliance.

### Structure

Each case of capital procurement has to meander through various committees comprising of various officials among several departments and agencies, namely, the respective service headquarters (SHQ), the Integrated Defence Service Headquarters (HQIDS), Director General of Quality Assurance (DGQA), Defence Research Development Organization (DRDO), the Acquisition Wing, MoD and MoD (Finance) at various stages of acquisition. There are several layers within which decisions have to be made and since so many individuals function individually and in a collegiate manner across various organizations, and files go back and forth between them, leading to dispersed accountability that is hard to fix.

### Process

A capital procurement decision in India goes through various stages: the formulation of staff qualitative requirements (SQR), acceptance of necessity approval (AON), formulation and sending of RFP, TEC, and trials and contract negotiation (CNC). While this process should take

from 74–137 weeks, depending upon the complexity and number of vendors participating in the process, it actually takes much longer than the timeline stipulated by the DPP.

The refinement of DPP over the years has led to the evolution of a *step-by-step guide* of what needs to be done with a prescription for different situations, articulating the situations and the response to each situation. It even gives draft RFP, compliance table, format for commercial offer, TEC and contract documents, among others, which makes it incumbent upon officers associated with procurement to follow the procedures in toto. While this approach lends uniformity of procedure and ease of compliance, *does this approach not rob the officers responsible for the procurements of the creativity and responsibility for achieving the outcomes they set out to achieve?* In the absence of any performance measurement framework, the mantra for the procurement teams today is—follow the book and the laid down procedure irrespective of the time the process takes, irrespective of the opportunity costs of not taking timely decisions, security implications, and eventual cost escalations and avoidable cost to the exchequer in the longer term. Officers avoid deviation from the rule book as it is a recipe for inviting criticism for favoritism and corruption. Even if they tweak a provision to facilitate a decision and outcome in the best long-term interest of the state, explanations are sought.

Although the defence capital procurement budget today accounts for 42 per cent of the defence budget, having grown rapidly in the last decade[10], there is no systematic measurement of its effectiveness. There is also no assessment of how an increase in defence budget contributes to an increase in national security, and no studies which quantitatively or qualitatively measure effectiveness and efficiency of the way the defence procurement system has evolved over the last decade.[11]

Besides, the Indian oversight system places very significant emphasis on adherence to procedures in a narrow sense, even at the cost of outcomes. A senior Central Vigilance Commission (CVC) official has unpacked the issue of adherence to rules succinctly:

> Rules and procedures prescribe actions aimed at maintaining certain principles like integrity, value for money, objectivity, fair play and competition. Therefore principles are more important than the rules and if principles are upheld even at the cost of rules, there should be no issues. However, in the Indian system, the procurement procedures and rules stipulate only the operative part and do not highlight the underlying principles.... Rules formulated in the form of dos and don'ts leave very little operational freedom to managers.[12]

### Culture

Defence acquisition-related decision-making in India is characterized by focus on compliance of procedures, risk avoidance and mistrust. India is often said to be impeded by its caution and bureaucratic inertia[13], and a culture which has become synonymous with lack of initiative, excessive adherence to rules and routine, and inefficiency. Several of the cultural challenges can be linked with processes and the way structures are aligned, and they seem to drive each other.

Although databases exist in different formats based on individual organizations' initiative, size and IT enablement, there is no systematic analysis of data on past procurements and how those procurements are aiding productivity improvement or enhancing operational preparedness.

The lack of trust in sound business judgment of individuals has given rise to numerous checks and balances, and an emphasis on adherence to strait-jacketed procedures instead of broad guiding principles and a hierarchical structure with diffused responsibility. The oversight system further reinforces this culture and the comprehensive body of rules and regulations leave little room for procurement officials and teams to show creativity and take ownership for bold decisions, thereby encouraging risk avoidance behaviour. Irrespective of time, the decisions taken and costs they entail, the defence capital procurement system has placed premium on following the procedures. This also restricts the procurement officials from recognizing that there are trade-offs between performance, cost and time; the time taken in decision-making matters; and that risks need to be identified and managed.

Lack of reliance on data and analytical tools contributes to lack of understanding of or sensitivity to some of the fundamental concepts, which have a bearing on outcomes. The focus on procedures makes procurement executives focus on going by the rule book instead of learning new tools and techniques that are required in acquisition, which is global in nature and driven by international regulations and requires sound understanding of the industry, engineering appreciation, life cycle costs, market indices, and innovative financial models.

## Defence Procurement Across the Globe

Researchers in India have created a credible body of work on India's need for a responsive, outcome-oriented procurement system, and it is now time to start thinking of how such a system could be built. It is worth

looking beyond our own borders and examining systems of other notable defence spenders. There is plenty to learn both from countries with large defence spending and those which have smaller defence budgets with security scenarios much different from that of India.

This article examines some of the notable defence spending countries among the top 15 in the world:

1. United States of America: largest spender.
2. United Kingdom and France: spend more than India and have well-developed defence industrial base and acquisition systems.
3. Australia, Brazil and Canada: spend less than India and, like India, still depend on imports.

Another reason for selecting these particular countries is that they share same democratic traditions where the military is subordinate to civilian authority, and also because of the relative transparency in their systems and availability of credible information and an existing body of research.

To understand the acquisition systems of these countries relative to India's, it is important to get a sense of the magnitude of their spending on acquisition (see Table 1). While in India most of the modernization and capability building gets covered under capital expenditure, these countries differ in the categorization and nomenclature of their acquisition expenditure. For instance, in the USA, capital acquisitions get covered under procurement, research development, testing and evaluation (RDTE). It caters separately for military construction and family accommodation. In India, 'capital' caters to not only modernization but also capital works, which include construction activity.

**Table 1** Defence Expenditure of Select Countries

| *Country* | *1988* | *1990* | *1995* | *2000* | *2005* | *2010* | *2011* |
|---|---|---|---|---|---|---|---|
| USA | 540.42 | 511.00 | 399.04 | 382.06 | 562.04 | 698.28 | 689.59 |
| France | 65.27 | 65.77 | 60.58 | 57.62 | 60.73 | 59.10 | 58.24 |
| UK | 53.75 | 54.30 | 44.66 | 44.31 | 53.68 | 58.10 | 57.88 |
| India | 16.71 | 17.58 | 18.33 | 25.84 | 33.69 | 46.09 | 44.28 |
| Brazil | 19.90 | 46.54 | 20.38 | 22.46 | 23.68 | 34.38 | 31.58 |
| Canada | 19.34 | 19.22 | 16.27 | 14.62 | 16.64 | 23.11 | 23.08 |
| Australia | 13.23 | 13.18 | 14.03 | 15.47 | 18.41 | 23.22 | 22.96 |

*Source*: *SIPRI Yearbook 2012*; all figures are in in US$ billion at 2010 constant prices and exchange rates.

Table 1 indicates the defence expenditure of the selected countries from 1988–2011. The United States, the world's largest defence spender accounting for over 40 per cent of world's defence spending, under its procurement head caters for US $124.7 billion in its budget for 2012 and makes separate provisions of $70.4 billion on research development, testing and evaluation (RDTE), and about $16 billion towards military construction and family accommodation.[14] Most other countries under discussion spend a fraction of the US's budget on their acquisitions. For instance, in the case of the UK, the annual budget of its acquisition agency Defence Equipment, Support and Technology is £15 billion or a little over $23 billion.[15] France, out of its €32 billion budget for 2010, spent €14 Billion on procurement.[16] Australia allocated US$9.1 billion on acquisition and through life support in its 2012-13 budgets.[17] In its defence policy of 2008, Brazil committed to re-equipping its military and in 2012 it sought BRL 8 billion ($4.38 billion) for procurement.[18] In its Canada First Defence Strategy formulated in 2008, Canada catered for US$490 billion over 20 years. It has developed its strategy around four pillars: personnel, equipment, readiness and infrastructure, and proposes to spend $60 billion towards equipment over this period.[19] India's acquisition budget lies somewhere between the higher spending United States and UK, and the lower spending Australia, Brazil and Canada—during the year 2012–13, India provided for $12.95 billion for the same.[20]

The US, UK and France have built strong defence industries, which is evident from the fact that the US, Russia, Germany, France and UK accounted for 78 per cent of all arms exports between 2004 and 2008.[21] From the data presented in Table 1, it may be inferred that the spending in respect of USA, UK, France and Canada, defence spending declined in the decade from 1990–2000 as a result of the end of the Cold War. However, significant reinvestments can be observed in the next decade (2001–11), which have coincided with or resulted from events like 9/11 and the North Atlantic Treaty Organization's (NATO) engagement in Afghanistan, and the Second Gulf War. In recent years, the clamour for reducing defence budgets has been increasing along with demand for increase in welfare funding. As long-term budget increases are not sustainable, and there is a need to maintain credible defence along their own policy lines, each nation is becoming increasingly focused on increasing efficiency and providing military equipment at least cost. As such these countries are continuously reforming their acquisition systems to sharpen effectiveness

and efficiency of utilization of resources while keeping the armed forces prepared for national defence as decided by national priorities.

Each country has tried to address the systemic challenges discussed in preceding section in their own way. While some have tried to centralize defence procurement in a one-touch point defence procurement organization (UK and France among the big spenders, and Australia and Brazil among the relatively smaller spenders), the US has, on the other hand, a decentralized and tightly meshed system of federal regulations and resources which deliver their indigenous acquisition programmes. Canada has, over the years, debated on a single procurement agency.

On the process dimension, too, they have varying degree of regulation and procurement guidelines. The UK and France can be considered as having a liberal regulatory framework for procurement while the US has a very well-defined regulatory framework. All these countries have addressed the process and cultural challenges by employing professional procurement teams whose decisions are based on data and analysis within the regulatory framework. Some elements of their frameworks, which aid effectiveness and efficiency, can be examined to see what lessons could be learnt from them. A scan of the defence procurement or acquisition systems around the world shows the following elements:

(a) Linkages between policy, planning and budgeting
(b) Focus on outcomes
(c) Analysis-driven decisions
(d) Enabling organization

The following section assesses India's own system along these four dimensions and contrasts it with the select nations, as also their impact on the key challenges on the dimensions of structure, process and culture.

### India: Linking Policy, Planning and Budgeting

While this article focuses on improving the existing procurement system, it will be incomplete if the steps which precede and affect procurement are not analysed. It is thus worthwhile to step back and see how processes relating to policy, planning and budgeting are linked in India and elsewhere.

The DPP 2011 seeks to link the procurement process to the planning process by prescribing the formulation of the 15 year Long-Term Integrated Perspective Plan (LTIPP), which outlines the technology perspective and the capability road map; the five year Services Capital

Acquisition Plan (SCAP), which indicates the list of equipment to be acquired, keeping in view operational requirements and the overall requirement of funds; and a short-term Annual Acquisition Plan (AAP) of each service, which is a two year roll-on plan for capital acquisitions and consists of the schemes from the approved SCAP. As can be seen, defence planning commences with the LTIPP but does not derive strength from any publicly-known national plan that articulates how national defence fits into the national objectives and how the latter would drive the former. As defence consumes very significant resources of the nation, it can be used to leverage growth by developing industry capabilities, driving innovation, and creating employment opportunities. Not linking defence to the national development objectives thus constitutes a missed opportunity to make it a driver of growth.

National security objectives need to be defined and defence policy articulated to balance defence effort with other national objectives and priorities, such as maintaining a viable economy and supporting development of the society. Former Chief of Army Staff, General V.P. Malik says that the 'lack of cohesive national security strategy and defence policy has resulted in inadequate political direction regarding politico military objectives.'[22] Much earlier, defence analyst K. Subrahmanyam had opined that the lack of clarity in thinking regarding the place of defence in the overall planned development process stands in the way of India's developing adequate defence capacity to defend itself.[23]

Let us now turn to how other the major defence spenders have linked their policy, planning and budgeting with their acquisition systems to obtain the benefit of a higher direction of national defence policy and strategy. Let us begin by examining Brazil, another emerging economy whose defence budget touches $33 billion. It is a country that has not seen many wars and articulated its defence strategy for the first time in 2008. Its National Strategy for Defense (NSD) categorically states that the national strategy of defense is inseparable from the national strategy of development. The latter drives the former. The former provides shielding to the latter. Each one reinforces the other's reasons.[24]

Based on the NSD and its resulting Military Strategy, Brazil's armed forces are required to submit their Equipment and Organization Plans. The Plans of each service then, need to make reference to short-term, medium-term and long-term goals.[25] The NSD addresses defence holistically, outlining the vision to meet its security requirements, power projection for geopolitical aspirations and articulates its manpower

strategy, building technological and production capability and engaging civil society. Although the defence structure is still evolving in Brazil, it has centralized obtaining defence products into the Ministry of Defence and established the Department of Defence Products (Secretaria de Produtos de Defesa or SEPROD) in 2010.[26]

Canada too came out with its defence strategy—Canada First Defence Strategy—in 2008, based on the Government's vision for defence as well as an analysis of the risks and threats facing the country. The goal of its strategy is to establish clear strategic goals and provide planning certainty through stable and predictable funding to enable investments in the four pillars of national defence—personnel, equipment, readiness, and infrastructure.[27]

The Americans, on the other hand, have a long history of reforms in defence which began with overhauling of the Department of Defence in the 1960s under Secretary of Defence, Robert McNamara, and the establishment of the Planning Programming Budgeting System (PPBS). Under this system, the planning process determined military objectives and force requirements, the programming phase translated these objectives into time-phased programmes, and the budgeting phase related to translating programme requirements into resource requirements of the spending departments. This approach required each service to document their multi-year programming of resources in a single document, known as the Five Year Defense Program (FYDP). Figure 1 shows how the PPBS evolved to become more participatory in the 1970s to provide fiscal guidance and programme objectives to the Services.

The PPBS evolved into PPBE (Planning Programming, Budgeting and Executive System) by 2003, as to assess how the programmes and budgets play out in the real world. PPBE and the Defence Acquisition System are connected through the Department of Defence's (DoD) personnel and financial resources. At programme initiation, an acquisition programme must identify its needs for these resources over the life of the programme. These requirements have to be consistent with the resources that have been allocated to the programme in the latest PPBE cycle to ensure that the programme is affordable. As the programme is carried out, its budget requirements are updated and the changes reflected in the PPBE. The defence acquisition system, detailed in the DoD 5000 series directives, in turn, emphasizes the establishment of programme goals—thresholds and objectives—for the minimum number of cost, schedule, and performance parameters that describe the programme over

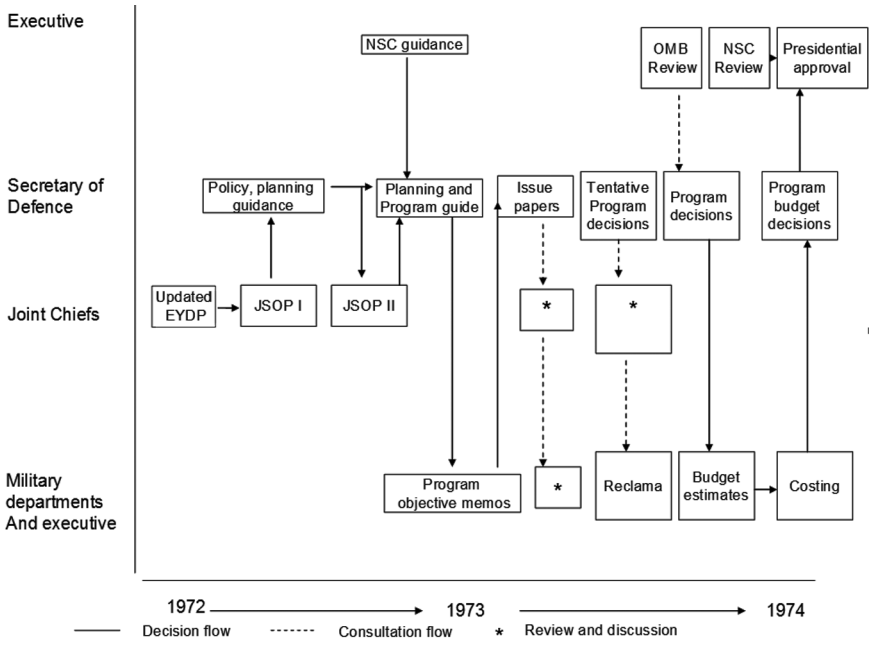


**Figure 1** Evolution of PPBS in USA

*Source:* Adapted from Ghosh (2006).[28]

its life cycle. The programme goals, in turn, have to be linked to the DoD Strategic Plan and other appropriate subordinate strategic plans, such as the component and Functional Strategic Plans and the Strategic Information Resources Management Plan.[29]

From an Indian perspective, the most useful elements of the American PPBE system are evolving a military strategy out of a national security strategy, which translates into military programmes, provision of assured resources over medium term, and now a focus on execution. Another takeaway for India from this system is the active engagement of the top leadership like the Secretary of Defence and Joint Chiefs of Staff.

The UK has enunciated its defence vision as 'Defending the United Kingdom and its interests, strengthening international peace and stability and being a Force for the Good in the world.'[30] The Defence Plan (DP) outlines how the defence aim obtained from this vision will be delivered. The plan originates from the National Security Strategy, which was first published in 2008 and updated in 2009. The Strategy for Defence (SD) articulates how departmental strategic objectives will be delivered. The strategy gives direction to ensure that the armed forces get the support

they need and that tax payers' money is spent wisely and continuous improvement is instilled in business practices to achieve greater efficiency. The four-year DP which delivers defence strategy, reflects priorities and how strategic objectives will be delivered. It outlines sub-strategies for the Armed Forces, Capability, Acquisition, Workforce, Security Policy and Financial Management, among others. Owners of each of these in turn define their own priorities and strategic, resource aware, long-term outlook with specific details for the first four to five years.[31]

In India, defence has been kept out of the nation's planned development efforts, and the allocation of resources for defence is considered in isolation from allocation for other priority areas, which also is reflected in the classification of expenditure as 'plan' and 'non-plan'. Even though defence acquisitions require long-range planning and the decisions have an impact over 20–30 years, the expenditure is classified as 'non-plan'. While some may argue that defence in India has never been denied funds and has not suffered any shortage of funds, what matters is not just adequacy of funding at a given point in time for decisions to be made, but an assured, predictable funding over the medium and long term along with planning based on analysis of risks and threats which is essential to a credible and affordable defence.

While the DPP 2011 keeps the goal of self-reliance as one of the objectives of procurement, and indigenization is a recurrent theme, a cogent approach informed by policy action and backed by various instruments available with the government is missing. If the status of defence is clear within the nation's development agenda, defence expenditure can be leveraged for growth. The nation's resolve for its defence can be strengthened if there is a clearly articulated defence policy, which is in the knowledge of its citizens and which clearly articulates its goals and strategies to achieve those goals.

## Institutional Framework for Focus on Outcomes

While the effort of years has helped evolve a procurement system which reduces ambiguities, enhances transparency and fair play, it also suffers from being a *compliance-oriented system rather than an outcome-oriented system*. To have a truly efficient and effective system of defence procurement, the key elements would have to be *focus on outcomes, flexibility and responsiveness*.

The features of flexibility, responsiveness and being outcome focused are hallmark of defence procurement systems around the world. The

stated vision of Federal Acquisition System established by the USA is 'to deliver on a timely basis the best value product or service to the customer, while maintaining the public's trust and fulfilling public policy objectives. Participants in the acquisition process should work together as a team and should be empowered to make decisions within their area of responsibility.'[32] Figure 2 shows the framework of the American acquisition system and the principles it follows in order to achieve procurement goals.

In order to become outcome-focused, a system needs a performance management system, which includes the following:

(a) Performance measurement system, which measures activities, outputs, outcomes and quality.
(b) Financial management cycle, which includes budgeting, accounting, auditing and evaluation.
(c) System for reporting status of performance information and accessibility of documents, such as accessibility of annual reports, and performance standards.

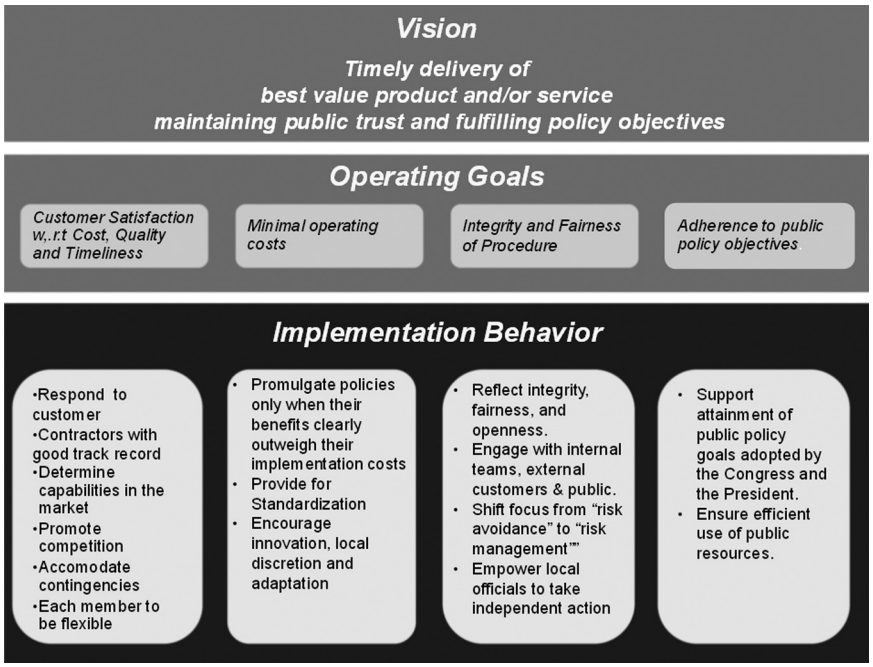


**Figure 2** Framework of American Acquisition System to Deliver Best Value Product on a Timely Basis

*Source:* Developed by the author on the basis of FAR guidelines.

(d) Mechanisms for using performance related information, such as performance budgeting and performance-related wages.
(e) Result oriented management support techniques, including performance agreements, risk management and benchmarking

In Indian defence, a performance measurement system to measure outputs, outcomes and quality is conspicuous by its absence. There are well-institutionalized systems for budgeting and accounting but the budgeting system followed in India is an input-based system, bequeathed by the British and given up by them in favour of programme budgeting around 1965, and as such does not give an idea of outputs or outcomes expected from the budgets. The accounting system does not illuminate the cost of programmes as the expenditure is compiled to detailed heads which can give information on how much expenditure is compiled to inputs such as pay and allowances, or petrol, oil and lubricants (POL) or stores of a kind; it cannot provide information on how much does it cost to maintain a Jaguar squadron or an artillery unit. India has a strong tradition of audit by the C&AG, which does a regulatory and performance audit as well as an internal audit of defence, which is largely regulatory or compliance audit. The annual reports of the Ministry are available on the Internet as are the reports of the C&AG and the SCD, and as such form a valuable part of the performance information system. Other performance-related tools, such as performance budgeting, performance wage as also performance agreements and techniques like risk management and benchmarking are yet to be exploited in Indian defence.

Countries such as Australia and the US have focused on outcomes. In the US, the Government Accounting Office (GAO) and the Congress define the principles of accounting and audit, standards of audit. In 1993, Government Performance and Results Act (GPRA) was enacted; it required all agencies (with some exceptions) to submit five-year strategic plans, which include annual performance plans with measurable goals, and performance targets and performance reports were to show three-year comparative data for indicators of programme performance.[33] In the US, there is relentless focus on improving performance reporting. The GAO in its 2013 report has spoken of serious financial management problems at the DoD due to which financial statements have been tagged as unauditable. The report has also adversely commented on federal government's inability to adequately account for and reconcile intra-

governmental activity and balances between federal agencies, and the federal government's ineffective process for preparing the consolidated financial statements.[34] In a bid to control costs and time frames of the weapon acquisition programmes, the Defence Science Board has echoed the framework and suggested that 'The most important action that the Secretary of Defense can take is to reform the strategic military planning system and establish a genuine business plan for DoD to discipline resource allocation in support of national security objectives.'[35]

Acknowledging need to strengthen accountability, Australia has, through the review of Defence Accountability Framework of 2011, proposed to strengthen organizational and individual performance accountability arrangements for all senior officers. Performance arrangements will focus on specifying actions and initiatives that are implemented by named individuals against specific performance measures. It also brings the staff's personal and professional accountability within its ambit, linking performance plans to the Defence Plan, and seeks to implement performance arrangements which encourage and reward high performance and deter under-performance.[36]

The UK too has put in place a performance management framework to measure achievement of objectives outlined in its Defence Plan and using performance indicators, targets and progress measures. The Defence Plan for the year 2010-14, for instance, clearly outlines broad strategic objectives and performance indicators against each (see Figure 3).

DP outlines how the defence aim outlined through this vision will be delivered. The plan takes its origin in the National Security Strategy which was first published in 2008 and updated in 2009. The UK MoD also contributes to two Public Service Agreements (PSAs):

(a) PSA 26: To reduce the risk to the UK and interests overseas from international terrorism; and
(b) PSA 30: A global and regional reduction in conflict and its impacts through improved UK and international efforts to prevent, manage and resolve conflict, and to create conditions required for effective state building and economic development.

In addition, the MoD contributes to two other PSAs on avoiding dangerous climate change and securing a healthy natural environment.

The Strategy for Defence (SD) provides direction to ensure that the armed forces get the support they need and that the tax payers' money is spent wisely, and continuous improvement is instilled in business practices

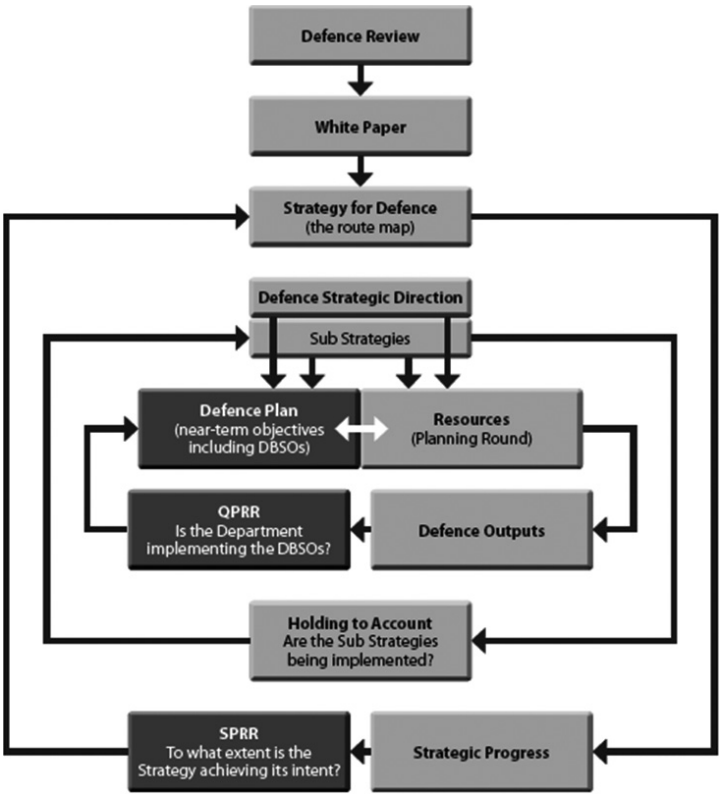


**Figure 3** Performance Management Framework in UK

*Source*: UK Ministry of Defence, *Defence Plan 2010–14*.

to achieve greater efficiency. Towards this end, 23 sub-strategies and the defence plan have been promulgated. The key sub-strategies include the Navy, Army, Air Force, Capability, Logistics and Acquisition. Clear aims and objectives with targets and performance indicators are included and the delivery of the Strategy is managed through sub-strategies for the key areas. The Defence Board Strategic Objectives (DBSO), defined in the DP, are derived from the technical instructions and the sub-strategies, thus linking the DP, a document used internally for delivery, and the SD, which defines the requirements of the national security and the priorities of the department.

Top level budget (TLB) holders are responsible for managing resources to achieve targets as effectively, efficiently and economically as possible. The performance management framework includes the Quarterly

Performance and Risk Report (QPRR). Annually, sub-strategy owners and TLB holders are held accountable for delivery of sub-strategies. A Strategic Performance and Risk Report (SPRR) is also prepared to evaluate and recaliberate strategy through adjustment of strategic direction.[37]

## Analysis Driven Decision-Making

Defence economist Keith Hartley suggests that considering alternative methods to achieving security and protection is a valuable framework.[38] The framework could be used to consider evaluation of achieving the same results using either land- or sea-, or air-based platforms. It can also be used to evaluate replacing manpower with equipment and within equipment; the alternatives of quality and quantity could be considered, as can the options of procuring new equipment as against life extension and mid-life updation. Further choices of importing or indigenous development and production could be evaluated to maximize the efficiency of the deployed resources.[39]

Although strength and composition of forces are main drivers of cost, force structure planning is not attempted through the planning process in India.[40] In a submission before the Parliamentary SCD, the Air Force averred that as against sanctioned strength of 42 squadrons, IAF has 34 fighter squadrons, the numbers of which will reduce to 31 squadrons in the Twelfth Plan period, although the IAF aims to build 45 squadrons (which will happen only by the Fifteenth Plan).[41] It is unclear why—with planned inductions of aircrafts of superior technology and capability like SU-30, Jaguar, Multi Role Combat Aircraft, Light Combat Aircraft— the IAF still targets building up to 45 squadrons. The principle of substitution would indicate that the service considers a force mix of high capability expensive equipment and low capability cheaper equipment, and while doing so also considers appropriate mix of equipment and manpower as such trade-offs would be essential for cost-effectiveness and to keep expenditure at sustainable levels.

The process of acquisition has embedded rigorous analysis in the major defence spenders for an outcome oriented decision-making system. Australia's procurement system, for instance, places premium on risk management and UK's system on cost-effectiveness analysis. Risk assessment is a pre-requisite for its complex and strategic procurements and uses the concept of earned value management (a set of project management principles that integrate cost, schedule and technical performance). It also

recognizes that value for money is not determined by the price of the goods and services alone. A comparative analysis of the relevant financial and non-financial costs and benefits of alternative solutions—taking into account factors like fitness for purpose, the performance history and experience of each potential supplier, flexibility (including innovation and adaptability over the lifecycle of the procurement), environmental sustainability (such as energy efficiency and environmental impact), and whole-of-life costs throughout the procurement process—is essential for value for money assessment.[42]

Acquisition systems the world over recognize that cost of risk avoidance is prohibitive and, hence, the focus must shift from risk avoidance to risk management. A failure to adequately identify risks and develop strategies to manage those risks could result in:

(a) selection of contractors not capable of delivering the required outcome;
(b) delays in the delivery leading to time overrun on contract or project completion;
(c) failure to meet intended quality parameters;
(d) project cost overruns, including due to legal process or probity issues arising during the procurement;
(e) increased costs to tenderers;
(f) damage to the reputation of defence or the individuals involved in the procurement; and
(g) non-achievement of identified requirement and/or not meeting the users' expectations.[43]

The UK, a pioneer of reforms in defence management, has continuously evolved its procurement system with an unwavering focus on cost-effectiveness. Its procurement system went on from becoming a sequential process consisting of specification and justification of the operational requirement by the defence staff to the selection of the most economical equipment by the Procurement Executive, and to an integrated cross functional analytical process using the concept of Combined Operational Effectiveness and Investment Appraisal (COEIA).[44] It includes comparison of the cost-effectiveness of a range of options to satisfy a military requirement and takes into account whole life costs and operational effectiveness. The analysis applies to force-mix studies which provide justification for a particular class of equipment and then set out examining alternative options within the class of equipment

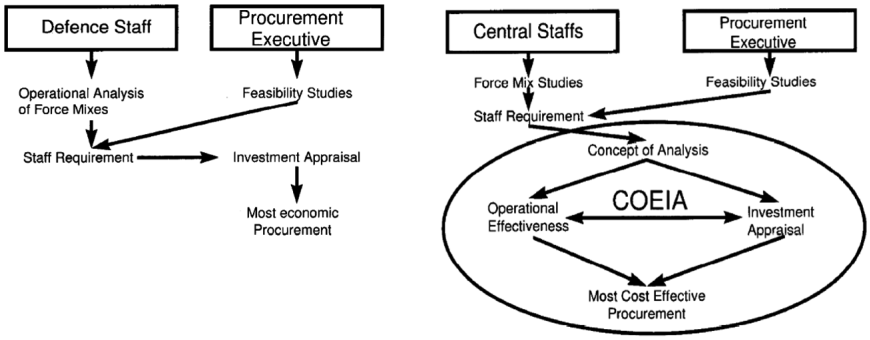


**Figure 4** Evolution of UK's Analysis Driven Procurement System

*Source*: Lindop, *Cost Effectiveness in UK Defence Procurement*.

considered. The MoD-approved scenarios and concepts of operation have to be considered and measures of effectiveness to be employed using procurement and support strategy for each option. Figure 4 shows how the UK has migrated from a sequential procurement system to a more integrated analysis driven procurement system.

The Acquisition Operating Framework put in place by the UK's MoD, while articulating defence values for acquisition, captures values which could make a vital difference to sharpening effectiveness of defence acquisitions—firstly, recognizing trade-offs between performance, time and cost; and, secondly, quantifying risk.[45]

## Enabling Organization

As the defence procurement system is inherently multidisciplinary and requires collaboration among people from different specializations, it is necessary that the system demands and encourages collaboration required to bring about outcome required: that of timely procurement of weapons and equipment of required performance parameters with the best value for money. This would mean that the performance evaluation, reward system, and decision rights have to be aligned such that they enable a multidisciplinary team to work towards common policy objectives and facilitate outcome oriented decision-making. The countries under consideration are constantly evolving organizations by virtue of addressing structural issues, aligning performance evaluation systems, incentives, and putting in place a comprehensive performance management system. In essence, an enabling organization is a sum total of its structure, processes

and work ethic aligned in such a manner that they achieve desired objectives.

The UK's Defence Equipment and Support organization (DE&S), which came into being in 2007 and also had defence procurement agency and defence logistics organization with it, is poised for yet another transition by way of part privatization of DE&S in order to control its costs. The organization has a budget of £14 billion and a staff of 16,500.[46,47] During the assessment phase announced in April 2013 and expected to last one year, the government will evaluate two options: one of a private sector-led government-owned, contractor-operated (GOCO) model, and the other a restructured, fully-funded version of DE&S that stays within the public sector, known as 'DE&S+'. This path-breaking reform is a one-of-its-kind undertaken by any country in the world.[48] This reform wave has been triggered by DES&T's inability to control costs, which, in turn, has been attributed to weak interface between DES&T and the wider MoD, and pressure from services to accommodate large number of change requests, thus leading to the programme being in a constant state of flux and overoptimistic cost estimates. The UK's Public Accounts Committee has noted the 'conspiracy of optimism' where project teams, industry and decision makers are willing to accept cost estimates closer to availability of resources and demonstrates this with two examples—that of the Landing Ship Dock project, which exceeded the cost estimates by 80 per cent, and omission to include development costs in the Type-45 destroyer project, which has led each ship to cost £100 million more than warships in this class.[49]

Speaking on the impending reforms to the DES&T wing of the UK MoD, Minister Peter Luff, in a deposition before the Committee, said: 'We tie our hands behind our back when it comes to commercial processes in government, and transparency is often the enemy of effectiveness.'[50]

Although the US's DoD is the leader in defence acquisition, it is urged by think tanks like the Rand Corporation and GAO to remain focused on containing costs and time frames of acquisition. J.A. Alic suggests that the root cause for large commitments to expensive programmes lies in the quest of each service competing for missions and resources to accomplish those missions. What exacerbates the situation is the inability to methodically compare and evaluate different weapon acquisition proposals; although they have similar functions, they entail different investments. In the name of national security, services are able to insist on the equipment they want. He suggests that the only way of arriving 'at more sensible acquisition

decisions is by reducing the control of the military services over major programs.'[51]

Recognizing the need to reduce processing time in its defence procurements, Canada has been debating on the creation of a single procurement agency to help improve accountability and expedite decision-making.[52] In 2009, the Canadian Association of Defence and Security Industries (CADSI) conducted a review of the Canadian Defence procurement system and identified four fundamental issues[53]:

(a) Length and unpredictability of Canada's procurement process.
(b) Bureaucracy, weak decision-making layers of bureaucracy, lack of consistent decision-making or accountability, and uncertainty about customer needs either from equipment or industrial regional benefits perspective.
(c) One-sided contracting lacking flexibility for innovative solutions.
(d) Lack of transparency and inability of contractors to communicate with government officials prior to issuance of proposals.

The French established a single executive agency within the Ministry of Defense—the Délégation Générale pour l'Armement (DGA)—which was made responsible for the contracting and management of all weapons programmes from inception to delivery, including export sales. Since the technical knowledge resides in the private sector, which is motivated by profit, the DGA relied upon the industry; however, to control costs and to ensure the industry did not take the government for a ride, the DGA hired the best and the brightest, allowed them years of experience in the industry and deployed them on those very programmes for years. It also gave its engineers programme authority and kept them in those positions long enough to develop deep understanding of the industry and the programme for effective management. The French also switched to fixed price contracts for development of weapon systems and engaged in pre-contractual negotiations to identify areas of risks to avoid cost overruns in later stages. As it is impossible to foresee all risks at the commencement of the programme, the French have established a 'responsibility principle' wherein whichever party, be it the government or the contractor, fails to meet contractual obligations, that party will bear the costs of the delay.[54] This principle has helped the French to avoid the rent seeking behaviour of the private industry and also keep the procurement executives accountable.

The American FAR seeks to empower the procurement team by

urging each of the acquisition team member to exercise personal initiative and sound judgment to provide the best value product or service to meet customer's needs. For them, any strategy, practice, policy or procedure not addressed in FAR, nor prohibited by law is a permissible exercise of authority.'[55]

Canada's Agreement on Internal Trade, signed on 18 July 1994, is one of the provisions that has had significant impact on federal procurements. This act is binding on federal, provincial and territorial governments and has strong redressal mechanisms according to which there are severe legal implications if procurement is not conducted fairly, and if politicians are found to have inappropriately intervened in the process. This has ensured that the politicians do not interfere once the procurement process has commenced.[56]

In Brazil, there is a new found impetus on defence which indicates that the country is no longer content with purchasing arms. To reduce the gaps which exist in critical defence technologies, academia, industry and business are participating in development of technologies. In its evolving defence acquisition system, SEPROD has been formed for a centralized and integrated management within the MoD, an equivalent of France's DGA. To make the organization enabling, attendant reforms in regulation have also been made. The Brazilian Complementary Law of 2010 empowers the MoD to formulate policies, issue guidelines and budget plans, and exercise a central role in the consolidation of proposals and prioritizing requirements. The law requires that a white paper be formulated addressing various issues such as the strategic scenario, national defence policy and strategy, modernization of the armed forces, rationalization of defense structures, and economic support of national defence. In 2012, special standards for the acquisition, contracting and development of defence products and systems have also been laid down, including the creation of incentive rules for the strategic defence area.[57] SEPROD's tasks include creating knowledge and expertise with regard to acquisition of defence products; laws, key players and their responsibilities, global trends, opportunities for partnerships; management of purchasing power; and acquiring knowledge in various disciplines necessary for efficiency and effectiveness for defence procurement.

Change is the constant feature of the acquisition systems of the leaders—US, UK and France. Australia and Canada are yet to achieve maturity in their defence acquisition systems as increase in defence spending in these countries is a recent phenomenon. Brazil's new

leadership is emphasizing on driving growth through its defence exports in which it is making rapid strides, and is evolving from a system grappling

**Table 2** Summary of Characteristics of Defence Acquisition Systems of Select Countries

| | UK | France | USA | Australia | Brazil | Canada | India |
|---|---|---|---|---|---|---|---|
| **Structure** | Multidisciplinary Centralized procurement agency DSE&T | Multidisciplinary Centralized procurement agency DGA | Decentralized tightly meshed system of resources and regulations DOD | Multidisciplinary Centralized procurement agency DMO | Multidisciplinary Centralized procurement agency SEPROD | Decentralized system of procurement DND, PWGSC and Industry Canada | Decentralized system of procurement Multinodal, Heirarchical AW, SHQ, MoD, DGQA, DRDO |
| **Process** | | | | | | | |
| Defence Strategy | Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review | The French White Paper on defence and national security | Defence Strategic Guidance | Defence White Paper | National Defence Strategy | Canada First Defence Strategy | No publicly articulated Defence Strategy |
| Links between policy planning and budgeting | Four year plan Program budgeting | Organic Law on Finance Laws (Lolf) Missions-programs | PPBE system connected to Joint Capability Integrated Development System (JCIDS) and Defence Acquisition Management System (DAMS) | Defence Capability Plan aligned with four year forward estimates of budget | Four year plans and annual budgets Accounting on cash basis | Report on Plans and Priorities for the DND &CF | LTIPP, SCAP. AAP, Input Based Budgeting Financial Reporting on cash basis |
| Defence Procurement Regulation | Defence and Security Public Contracts Regulation 2011Defence procurement not regulated at all Procurement on a case-by-case basis- | Act of Parliament, the *Code des Marchés Publics* | DOD 5000 FAR International agreements, DoD Directive 2060.1 Customary international law, and the law of armed conflict | Defence Procurement Policy Manual | Brazilian Complementary Law | Munitions Supply Program Trade Agreements Agreement on Internal Trade | DPP2011 |
| Performance Measurement Framework | NAO Strategic Plan, Goals, PI, Performance Agreements Integration of financial and performance information | Stringent enforcement system Internal Audit department of Defence, Mission Support Flight (MAP) Court of Auditors, Corporate Accounting System Audit | Govt Accounting Office (GOA), Congress, GPRA 1993 Strategic Plan, Goals, Performance Indicators | FMA Act 1997 ANAO Major Project Reports, Annual Reports Lack of detailed parliamentary oversight Need to develop KPIs in MSA | The Congress Federal Inspector General Officer (CGU) | Policy on Management, Resources and Results Structures (MRRS) Auditor General of Canada Strategic Outcomes Performance Indicators, Targets | C&AG, SCD No Strategic Plan, Outcome Goals or performance indicators |
| **Decision Making Culture** | Professional analysis based decision making Increasingly commercial orientation | Commercially oriented, Private sector engagement | Outcome focused Flexibility for greater competition, innovation Professional workforce skilled across disciplines<br><br>Risk-based and results oriented management approaches have to be integrated with business cycles | Needs to improve focus on performance and results. Become Business like Greater Engagement with Industry needed | Professionalism in Civil Service and Managerial Flexibility required | Bureaucratic Lack of transparency Over cautious approach Need for better engagement with the industry | Bureaucratic Compliance oriented decision making Lack of focus on outcomes |

Unavailable or Limiting  Weak or Evolving  Established and Enabling

with features of inadequate links between planning and budgeting and managerial skills among decision-makers. Table 2 summarizes how the different systems compare with each other.

### Towards an Effective Procurement System for India

It is now apparent that each country has tried to establish a system according to its own national priorities. While India and Canada realize their defence needs largely from foreign procurement, the UK, US and France have a mature defence industrial base and acquire domestically; and Brazil aspires to develop its defence own industrial base.

All these countries have continuously reformed their acquisition systems to meet their evolving defence needs and continue to do so in order to enhance efficiency and effectiveness in view of the competing resource pressures to keep defence spending within sustainable levels. The key elements demonstrated by the acquisition systems can be summarized as given below.

(a) Clearly articulated defence strategic vision which clearly lays down strategic objectives for which capabilities have to be built.
(b) A facilitating regulatory framework.
(c) Very closely linked or unified system of capability planning and management of resources.
(d) A strong performance measurement framework which seeks results and accountability.
(e) An enabling organization which obtains its enabling character by its work ethic and culture which in turn is deeply influenced by the attendant structure and various processes connected with acquisition as also non acquisition processes, such as those pertaining to performance measurement, recruiting and retaining talent, accounting and budgeting.

Having studied the other systems, it is time to reflect upon what India needs to do to evolve an effective defence acquisition system. Over the last decade, significant strides have been made in reforming defence acquisition in India.

(a) Establishment of acquisition wing.
(b) Evolution of defence procurement procedure.
(c) A renewed focus on planning which has led to evolution of the LTIPP, SCAP, from which the AAP is derived.

At a systemic level, these fall short of achieving the outcome of timely materialization of defence requirements. Although the system succeeds in procurement of items within the resources allocated within the year, it cannot be said with certainty that the supplies materialize in a cost-effective manner as the decisions are not based on options analysis and force-mix studies, and the value-for-money analysis is limited to the procurement cost and not the through-life costs. To establish a result-oriented system, reforms in the areas of establishing a performance management framework and infusion of professionalism in decision-making are imperative. These can be summarised as follows.

(a) Articulate a defence strategy which has a definitive strategic vision and clearly lays down strategic objectives for which capabilities have to be built.
(b) Develop a strong performance measurement framework that seeks results and accountability. India has a strong framework for oversight, and reports from the C&AG particularly illuminate the state of defence procurement system. The CVC needs to focus its efforts on broad principles to ensure outcomes effectively and efficienctly instead of mere compliance with procedures in a narrow sense. The internal mechanisms within the MoD need to be strengthened beginning with the strategic plan, and objectives and strategies to achieve those objectives. Thereafter, performance indicators need to be established for each activity so as to measure how daily activities contribute towards achievement of goals.
(c) Infuse the decision-making system with skilled professionals from management, technology and business. Institute mechanisms and flexibility for hiring and retaining the brightest with relevant industry experience to build subject matter expertise. The current policy of tenures at the Service HQ and the MoD in India does little to help build specialization in procurement. Mechanisms need to be put in place to incentivize individuals to become and remain procurement specialists. This could include specialist pay or promotion within a professional vertical. Infusing the acquisition wing with specialists with externally recognized qualifications and professional affiliations should be considered, and this should apply to both military and civilian personnel.[58]
(d) Improve budgeting techniques from traditional budgeting to outcome-focused budgeting techniques, including programme budgeting.

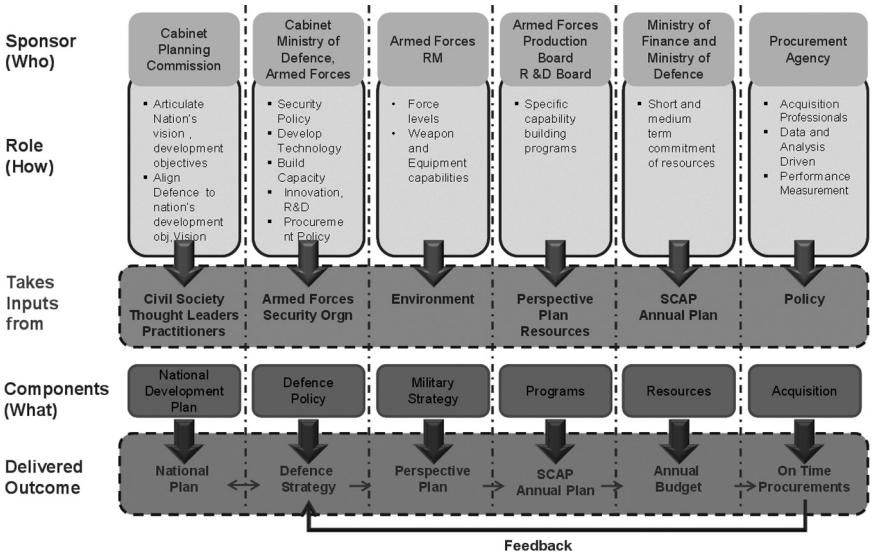


**Figure 5** Framework for Delivering a High Performing Defence Procurement System

*Source*: Author.

Acquisition reform is a journey and not a destination[59], and systems can be continually reviewed for sharpening effectiveness, enhancing efficiency, and making sure they achieve the desired outcomes. It is, therefore, clear that in order to establish an effective defence procurement system that can materialize on time the required capabilities to the armed forces at the best value for money, *India needs to incorporate elements of strategic planning, effective budgeting and costing that are linked with planning activities. It also needs to unshackle procurement from procedures and rely on analysis driven decision-making and to ensure that everyone in the system focuses on outcomes, inter alia, building a system for accountability. The key, therefore, is to evolve procurement principles rather than a detailed step-by-step prescription of dos and don'ts, which encourages initiative and use of sound business judgment to further policy objectives*.

Figure 5 proposes a framework for a high performing procurement system: *what* needs to be done, *who* will do it, and *how* it can be done.

## The Way Ahead

A transformation of this magnitude can rarely be achieved with a big bang approach. Incremental improvements need to set the tone for desired

change, get buy-in of the key stakeholders and prepare the foundation for larger changes by way of quick gains, with minimal disruption to current environment.

As a first step, a performance management framework needs to be put in place along with building capacity of procurement teams and giving flexibility to procurement officials to use their sound business judgment. This will lead to a principles-based procurement, bringing to the table flexibility, responsiveness and analysis based decision-making. This will also enable management of risks and provide the ability to obviate delays and cost overruns arising out of risk avoidance, and eventually lead to improving time frames and outcomes of procurement.

The second step would be strengthening the performance management framework among various overlapping functions of planning, budgeting, and acquisitions, which will help establish accountability of individuals and teams.

The third step would be to streamline the procurement structure, making it an integrated, multidisciplinary, specialized body for making procurement decisions. As the foundation for a system that facilitates on-time delivery of military products and services at best value for money is laid, the focus will shift from compliance to risk management and achievement of desired outcomes.

While the organizational challenges are being addressed, a higher direction—that of integrating defence in the overall national development agenda—can be obtained to build a responsive defence procurement system geared towards achieving defined national strategic objectives.

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