

Budgeting for Desired Defence Capability

*A. K. Ghosh**

The Defence procurement policy and procedure as brought out in DPP-2006 (Defence Procurement Policy, 2006) indicated that for policy decisions relating to acquiring of weapons and systems, we are basing them on capability planning in the context of operational requirements. It talked in terms of existing 'capability gaps', and examination of alternative means of overcoming them, while processing a case for policy decision. Capability planning has various implications from resource allocation angle and particularly for defence budgeting, which are yet to be addressed in a systematic manner. An attempt has been made below to highlight some of the issues and the possible ways to tackle them.

Budgeting as a means for obtaining optimum defence capability would call for reform in the defence budgeting process in three important aspects. First, the budgetary process has to be changed so as to treat defence budgeting as a part of decision making process for optimum resource allocation for achieving specific defence capabilities. The process should be so designed that choice could be exercised in allocating limited means for achieving identified 'objectives' with a view to achieving maximum effectiveness in defence spending. To develop optimum defence capability, the objective should be clear.

Second, the budgeting process should be closely linked with the defence planning process. Budgeting should be treated as the execution portion of

*Amiya Kumar Ghosh is a former Finance Advisor, Defence Services.

defence planning cycle, so that there is close coordination between capability planning and budgeting. This will call for extended time horizon for defence budgeting as also change in the format of defence budget.

Third, attention should be focused on the end products of defence budgeting through the concept of programmes for capability building, making it an output-oriented budget.

In this context, it is good to remember, that for optimum capability building through objective-based defence planning, a relationship is required to be established between the identified objectives and the various activities to enhance military capabilities.

Military capabilities are capabilities to perform specified tasks. Therefore, the basis for resource allocation decisions in the capability based Defence Plans, should be military tasks that are required to be performed. It is the military tasks conceived in the framework of objective- based approach that would provide the basis for development of programmes for those tasks. Programmes by themselves have no sanctity, unless they are linked to the performance of military tasks that have been identified as necessary for carrying out national security policy. There should be explicit link between aims of policy and military forces required to achieve the aims. Programmes should be considered as providing that link.

In the capability based approach, defence forces must be manned, equipped, and trained to carry out the identified military tasks, for which they are assigned. So the programmes should be developed on a composite basis, taking into account all the elements required to develop capabilities to carry out specific tasks. Clearly, in the capability based approach, programmes cannot merely be conceived as equipment acquisition programmes, as we often tend to do, and make our Defence Plans as equipment acquisition plans. Defence Plans have to be much more than that.

So, what we are following today is a truncated approach to defence planning, which may not be the right approach to develop optimum defence capability. Because of the basic importance of military tasks to provide the building blocks for defence programmes, there should be an adequate planning and resource allocation mechanism in Service Headquarters. We have not adequately emphasized upon it, as our planners have mostly concentrated on acquisitions of equipments and systems.

Programme planning and budgeting for capability building to achieve identified objectives have to take place at the level of Service Headquarters, within the overall guidance provided by formulation of military policy and strategy at the Ministry and higher level. The policy objectives, however, cannot be set at the Service Headquarters level.

Planning and Programming

When Arthur Smithies, in his seminal work in the nineteen fifties, first conceived of budgeting as a part of decision-making process, he conceived a process consisting of six stages: determination of policy objectives, planning, programming, budget formulation, budget or program execution, budget or program review. What was the role of planning in the decision making process, as conceived by Smithies? In his words: "Planning, as the term is used here, means the preparation of alternative plans that will further particular policy objectives in varying measure and are within the reasonable bounds of feasibility."¹ His definition of programming was "Programming denotes a further step in the direction of finality and feasibility, and may involve selection among alternative plans or a combination of elements from a number of plans."²

Basic decisions that greatly influence the size of budget are required to be taken at the programming stage. To quote him once again, "the distribution of the defense program among the three Services are budgetary questions,

since the national objective is to obtain the most efficient use of resources devoted to defense. While these questions are largely settled before a budget is prepared, the programming decisions should be based on the relative costs of the various defense alternatives.”³ Costing of programmes again assumes central importance both for decision making and budgeting. That is why for budgeting for defence capability, programming stage should be properly designed and should precede budgeting.

Arthur Smithies has been quoted for two reasons. First, to indicate that in quest for rational allocation of resources, setting of policy objectives followed by planning and programming are essential steps, before budgeting is attempted. Secondly, these steps have their validity in any rational system of decision making in resource allocation, and were visualized much before PPBS was introduced in US Defense in the sixties. One may criticize PPBS for various reasons, but that does not make the concept of planning and programming invalid. Their validity is derived from need for rational allocation of resources for achieving optimum defence capability.

Force structure and Capability Building

The main determinant of defence capability is the force structure. So force planning becomes the key element in capability planning. When Program Budgeting or its variant Programme, Planning and Budgeting System (PPBS) was introduced in sixties in U.S. Defense, the Five Years Defense Program (FYDS), ten Major Force Programs (MFPs), were its central foci. Defence budgets were allocated among these MFPs to achieve optimal allocation of resources. The ten MFPs were so defined that they expressed the principal missions the military needed to perform.

Without defining the missions and tasks, and allocating resources for carrying the military tasks, capability planning cannot be attempted. The

most important ingredient of capability planning is force structure planning. In India, we are yet to attempt force structure planning through our five year plans. The main drivers of cost in defence are the strength and composition of forces. If we want to use budgeting for building up desired defence capabilities, then an affordable force planning should be its main focus for all the three Services.

In determining appropriate force structure, there has to be a well conceived and well debated defence strategy. National security strategy would have to relate 'means' to 'ends'. There is no strategy in the absence of choice about 'means' and 'ends', or their relationship. In a democratic society, difficulties are often faced in coming to grips with the 'ends' rather than the 'means' of strategy. This is why there is absolute necessity of periodic comprehensive Defence Reviews, in defining the 'ends' and establishing relationship between 'ends' and 'means' towards formulating a defence strategy and broad allocation of resources in a multi-year perspective. We are yet to undertake such a review. It may be worthwhile in this context to quote from the report of the Estimates Committee of the Parliament (1992-93) on defence force levels: "The committee is apprised that the force level under the Ministry of Defence is determined by the dynamic perspective of the security scenario coupled with the annual availability of resources within the plan period, competing demands of other priority sectors, the technological developments and other systemic inputs. They are shocked to find that the question of force level which is inherently linked with perspectives on national security should be dealt with on such vague and unpredictable considerations (emphasis added)."⁴ The issue is still unresolved.

Policy decisions regarding broad military tasks and missions to be aimed at are to be taken to provide a basis for approving a force level and a force structure, which can be addressed through a Defence Review - which is long overdue. Nothing is more urgent than having a Defence Review from the point of view of public interest and policy, if the government wants to address the unresolved issues as brought out in the Report of the Estimates

Committee of 1993 on defence force levels, manpower etc. Without it defence capability building may take an ad hoc character and may not meet the desired objectives. Naturally, defence budgeting would also take an ad hoc character, as it is very much evident.

Budgeting for Defence Capability and Budgeting for Modernisation

Budgeting for defence capability has to have a close link with strategic planning process for national security. Resource allocation under capability based planning would look for capability gaps on the basis of objectives to be attained. Budgeting should aim at allocating funds on a priority basis for meeting the capability gaps, based on strategic consideration. There should be a close link between Defence Strategy and Defence Budgeting. In a sense defence budgeting for capability is defence strategy. This is because defence capability building is not done for its own sake. Capabilities are developed to achieve national military objectives and operational objectives, and budgeting is the means to do so. Defence budgeting has to be viewed as a resource allocation process for building up required military capability for carrying out military tasks based on operational objectives. Important elements of defence capability building viz. manpower, training, ammunition and various other stores meant for operation and maintenance purposes, are in the revenue side of defence budget. *When capability building is the objective, the entire defence budget has to be considered for allocation to develop specific defence capabilities.* In capability planning major emphasis is given on operational concepts and operational challenges and resource allocation has to be done on that basis.

Capability planning and Programme Budgeting.

Programme Budgeting (PPBS) introduced in 1960s in USA laid the foundation for capability-based planning. While it has undergone a number of changes over the past four decades, but the core element and the

basic process still provides the basis for allocation of resources for capability building. After the operation of PPBS for nearly two decades, many analysts pointed out that the first 'P', which stood for strategic planning, was missing. Some of the reforms brought about in mid-eighties, were really concerned with the front end of planning - meaning strategic planning.

The Group of Ministers (GoM), in their report on Reforming the National Security System (2001) stated that, “A need has been felt for a review of the form and content of the Defence Services Estimates and the expansion of the budgetary classification to *promote programme based budgeting*, while ensuring compliance with security requirements (Para 6.52).” They also stated that “optimal allocation of resources cannot be achieved unless greater emphasis and attention is given to the *process of budget formulation* and implementation, including forecasting, monitoring and control (Para6.51).” But they did not emphasize the need for strategic planning and the need for linking budgeting process to it. In fact without it, budgeting process cannot be improved.

Unfortunately, the GoM did not go into the implications of adopting programme budgeting nor did they emphasize that programming process should precede budget making to bring about optimal allocation of resources. As David Novick pointed out that “planning and programming are aspects of the same process; they differ only in the emphasis.”⁵

Planning here does not mean the Five Year Plans, as we formulate them, a list of schemes. It is an activity concerned with selection of best course of action among various alternatives given the limitation of resources. To quote Novick again, “*Planning* is the production of the range of meaningful potentials for selection of a course of action through systematic consideration of alternatives. *Programming* is the specific determination of the manpower, materiel, and facilities necessary for

accomplishing a program. In addition, except in the very short term where dollars are in effect 'given', programming entails interest in dollar requirements for meeting the manpower, materiel, and facility needs.”⁶

By adopting the programme budgeting concept in this sense, budgeting for desired defence capability became possible. The GoM did not get into these aspects of programme budgeting. Thus, a great opportunity of reforming the defence budgetary process in India to develop defence capability was lost. They got more concerned with defence procurement process, with a view to expedite it and recommended organizational changes - which were promptly adopted. Procurement planning cannot substitute for defence planning which calls for consideration of alternatives to achieve defence objectives. Without strategic planning to back it up, defence procurement takes an ad hoc character.

Defence Capability Plan and Defence Budgeting

Budgeting for desired defence capability would very much be dependent on a well-conceived Defence Capability Plan. Till the 10th Defence Plan we have not specifically adopted capability based planning in defence. The aim of the Five Year Plans has been to modernise defence forces. The projections of the Ministry of Defence for 10th Plan were reviewed thrice between March 2003 and July 2004 bearing in mind the needs of defence modernisation. As per 11th Report of the Standing Committee on Defence on Demand and Grants (2006-07), the Ministry of Finance had finally agreed in principle to the projections made by the Ministry of Defence of Rs. 4,18,101 crores for the 10th Defence Plan 2002-07. “However, the total allocation for the 10th Plan on the basis of annual plan allocation comes to Rs. 3,64,000 crores. Hence, there has been a gap of Rs. 5,41,000 crore between the indicative figure given and the total allocation made by the Ministry of Finance for the 10th Plan.”⁷ This in fact, with reference to original projection, was around Rs. 1,29,000 crores.

It is clear that the projections made by Ministry for the plan are not taken very seriously. In capability based planning there has to be a closed link between planning and budgeting as the desired capabilities are required to be achieved within a given time frame, to meet specific challenges. So the most important lesson for budgeting for capability building is that projected five year budget should have in-principle approval from the Government, say of the Cabinet Committee on Security(CSS). It cannot be left to be a debate between Ministry of Defence and ministry of Finance. Capability Plan should be based on it.

It has been reported keeping in view the experience of 10th Defence Plan, the 11th Defence Plan (2007-12) has been drawn up keeping in view the financial constraints with the aim of filling up defence capability gaps. The aim and objectives to be achieved in the 11th Defence Plan by the three Services, as intimated by the Ministry of Defence to the Standing Committee on Defence while discussing Demands for Grants 2006-07, are briefly as under:⁸

- Army - Development of capability to attain military objectives in a short, high intensity war against nuclear backdrop. Continued up gradation of capability for countering proxy war/ insurgencies and other emerging internal security challenges.
- Navy - Impetus on improving the capability in the area of air-borne maritime surveillance, anti-submarine warfare, air defence capability through induction of aircraft, integral helos and UAVs (Unmanned Armoured Vehicles). Arresting the force level decline of submarines and networking platforms for more effective maritime operations.
- Air Force - The formulation of 11th IAF Plan (2007-12) has been driven by the imperative of keeping an equal focus on several vital

issues: strategic reach, enhancement of firepower of combat forces, enhancement of air lift capability and operating infrastructure with due regard to the perceived security concerns and technological environment. The broad thrust of the plan has been on containing the adverse effect of force depletion to the extent possible.

What confuses a layman is that goal of capability planning for each Service is different. The element of 'jointness' in capability planning is missing. While Army would be developing capability to attain military objectives "in a short, high intensity war", Air Force in its capability plan does not mention anything of this "high intensity" war or how it would support Army to attain military objectives in such a war. The thrust of the plan is containing adverse impact of "force depletion". Navy in its capability plan aims at all round improvement in capability and arresting force level decline but does not mention about developing specific capability based on operational concepts. Budgeting for each Service based on this kind of planning would have different thrust and would not lead to optimal allocation of resources for attaining strategic objectives.

Defence Strategy and Capability Building

Defence strategy, force planning and capability building are closely interrelated. Deliberations and methodology adopted for capability planning in USA in the context of Quadrennial Defence Review, 1997 (QDR '97) as also subsequent QDRs, clearly indicates the interrelationship. The QDR took a "capabilities analysis" perspective by emphasizing the need to have operational capabilities for a highly diverse set of military contingencies. It drew on the ideas in Joint Vision 2010 and revolution in military affairs.

But equally important, the capability planning in QDR'97 was based on the assumption that defence budget was likely to remain constant in real terms

during the plan period. For capability planning the assumption about likely availability of budgets for next five years or more is absolutely essential.

If it is expected to grow then the assumption about the rate it is likely to grow annually at is very important for capability planning. Assumption might relate to real term growth in defence budget and if that was not possible, growth may be assumed in numerical terms. For defence planning in India, it will require decision at the level of Cabinet Committee on Security (CCS). Finance Ministry on its own cannot give this kind of commitment. So the most important point relating to budgeting for defence capability is that it calls for long term budgeting.

In Australia, for example, the 2000 Defence White Paper committed the Government to increase defence spending by an average of 3 percent real growth a year from 2000-01 to 2010-11. In 2006, the Australian government decided to increase defense spending by 3 percent in real terms per year until 2015-16. Because of the long term commitment of funding it became possible to earmark \$2.2 billion to acquire heavy airlift capability enabling rapid deployment of combat vehicles, helicopters and supplies, as also to earmark \$1.5 billion for a ten year period for networked Army and increase in its size.⁹

Long Term View of Funding is Necessary for Determining Affordability

When considering phasing out of two or more new aircraft, the analyst may have to look 20 years or more into the future to have some assurance that he is recommending an affordable acquisition plan since, “In the long view of fighter modernization, long-term averages of budgets and expenditures assume more importance than what happens in the next year or two.”¹⁰ Affordability is assuming increasing importance as a design consideration for new fighter aircraft, even in US defense considerations.

One cannot confidently predict the size of future defence budgets. But it is not impossible to make projections about allocation for defence and the likely share of Air force, Army and Navy keeping in view past trends of allocation for defence budget and the share of respective services in the defence budget. Any projection for defence budget for next ten years, assuming more than 9 percent annual growth on the present level, given the operation of FRBM Act, would appear optimistic. In making projections for long term one has to make conservative estimates.

It may not be possible to maintain the present high level of allocation for capital expenditure which has now touched almost 43 percent of defence budget, as no rationalization of expenditure on support services has taken place. Keeping in view past trends, percentage of allocation for revenue budget would have to increase from the present levels, particularly with implementation of recommendations of Sixth Pay Commission. Without change in force levels in terms of manpower, it may be difficult to sustain a capital budget of more than 35 percent on the average during next ten years. One can even consider the possibility of sustaining a capital budget at 37-38 percent with changes in force level and other reforms during next ten years.

On the basis of such possibilities one can attempt to calculate likely availability of funds for various segments of defence capabilities. For this, each Service has to work out the competing needs for capital expenditure out of its share of capital budget and the affordability of various aspects of modernization. For the Air Force, for example, in the current context for capability building, one has to assess broad possibility of affordability of fighter aircraft modernization.

Assessing Affordability of Force Structure

We have avoided issues relating to force structure as we did not have a long

term consideration of affordability. For example, in the Air Force there is a concept of high- low mix. High-low mix refers to buying some aircraft that are highly capable and highly expensive (the high side of the mix) and some that have lesser capability and are of low cost (low end of the mix). It is recognized that not all aircraft in a total fighter force posture need to have comparable capabilities. Because of reasons of total cost, it is expected that majority of force will consist of “low-end” aircraft; these aircrafts are designed to be “general purpose” in character.

Buying a force consisting only of specialized “high-end” aircraft will reduce the total force size significantly unless allocation for air force is increased significantly. Though our air force evolved into having a 'high-low' in recent debates this aspect has been ignored. SU-30MKI is a high-end aircraft which is also being 'produced' in the country. Mirage 2000, Mig 29, Jaguars are all high end aircrafts. From the recent Request for Proposals for 126 aircraft, it is obvious that these would fulfill the role of the 'high-end' aircrafts. Then which one would be in the 'low-end' of the mix? Certainly not the LCA which will cost four to five times that of updated MiG 21 and much more capable. Perhaps, are we planning to have a smaller size air force structure? But there has been no debate on this in India.

No country, however rich, can do without this kind of debate as the question of affordability in capability planning, is a must. For example, in mid-nineties when U.S. Air Force was considering various options about the force mix in fighter aircraft, in the context of future induction of F-22 fighter which was under development, one point that came up repeatedly into consideration is the high cost of the aircraft and its likely impact on US air force structure. As one analyst, bringing out the nature of choice that has to be made, put it as, “For a given level of modernization funding, each \$10 million increase in the flyaway cost of the multi-role aircraft subtracts three to four wings of force structure. As it buys more expensive aircrafts,

the Air Force must weigh the capability of each individual aircraft against the desirability of having a larger force. Acquisition of a \$45 million multi-role fighter does not appear consistent with maintaining a force of 20 wings or more, particularly since even typical procurement growth in the F-22 program would subtract about two additional wings from each force structure that could be envisaged on the basis possible range of future funding of U.S. Air Force.”¹¹

Each Service has to consider this kind of trade-off while modernizing its forces because resources are limited. We do not seem to be making any deliberate choice in this regard and leaving the force structure to evolve out of the normal process of induction of new equipment as part of modernization effort and de-induction of equipment on completion of their service life. This is particularly true in case of Air Force, as would be evident from following two excerpts from the Report of the Standing Committee on Defence of the Parliament on the Demands for Grants (2006-2007). In reply to questions raised while examining Demands for Grants for 2005-06 regarding Air Force squadron strength, the Ministry of Defence in their action taken note said, “The present squadron strength of Air Force is 37 against the authorized strength of 39.5 squadrons. With the planned inductions of SU-30, Jaguar, Multi Role Combat Aircraft, Light Combat Aircraft and phasing out of certain aircraft during 2005-2017, the Combat Squadron strength at the end of X, XI and XII Plan period is expected to be 29, 34 and 36 squadrons, respectively.”¹²

One is left to wonder if squadron strength of 29 is considered adequate at the end of Xth Plan, why is it allowed to go up to 36 at the end of 12th Plan when more advanced combat aircrafts would be in the inventory. Or, if the desired squadron strength of Air Force is 36, then why is it allowed to fall below that level in 10th and 11th Plan period. The calculations undergo change when a reply is given on this very issue when the Demand for Grants for 2006-07 is discussed, as the following evidence given by the

Ministry of Defence would show: “by the end of the Eleventh Plan, we will be reaching 31.5 squadrons, and by the end of the Twelfth Plan, we will be reaching 26.5 squadrons. However, by addition of MMRCA, these 126 aircraft will go to make six squadrons. Starting from the Eleventh Plan onwards, progressive increase in squadrons would take place. We expect that at the end of the Eleventh Plan, we would have approximately two squadrons, therefore, rising by about 33.5 and at and at the end of Twelfth Plan, rising by six squadrons, that means, making it 32.5 squadrons with the MMRCA.”¹³

From the affordability point of view, for the Air Force to maintain a 36 squadron or more of fighter aircraft, a general purpose aircraft like MiG 21 on a new platform, though more capable, with cost not more than 20 to 25 percent over the updated MiG 21s, may have to be there in the inventory. If this option is not feasible, then from affordability point of view squadron strength has to fall. One has to decide about optimum squadron strength of air force from the affordability point of view keeping in view not only the acquisition cost, but more importantly the maintenance and operation cost which are often ignored. This would not help in defence capability planning.

The most important thing in budgeting for desired capability, would be to examine what are the options available within a budgetary allocation, which in real terms may not grow by more than three or four percent per year. There has to an integrated approach for evaluation of options for capability building to get best value for money. The options would be to acquire new capabilities such as advanced aircrafts incorporating advanced technology, tactical missile defence, UAVs, C4ISR - which would come under option of modernization. Cost of these elements of modernisation have to be balanced against reduction of air force squadrons, reduction of army divisions by x number as against modernization options, for more fire power, greater mobility, more attack

helicopters, UAVs, C4ISR for Navy, reduction of number of surface ships as against increase in submarine strength or vice versa. These options are to be examined on the basis of criteria of costs and effectiveness. It should be annualized costs of each option. This could be obtained by amortizing acquisition costs over the expected life of the system, adding operating costs and support costs and discounting future costs.

For effectiveness estimates for capabilities, expert judgements are to be the basis. These could be basis of scorecards for assessing their efficiency against various contingencies. The options are to be arranged in a descending order of cost effectiveness, top options buy more for the money spent. The composite assessment of course depends on relative emphasis given different components of defence strategy. Each of the evaluation would depend on many assumptions, such as planning scenarios to test the capabilities and perceived worth of different hedges against strategic uncertainty. Capability assessment and evaluation should be made against each component of defence strategy. So formulating a well articulated defence strategy is most essential step for deciding about the capabilities that need to be acquired.

Rational allocation of resources - which defence budgeting should aim at - is to be done on the basis of military tasks to be performed based on national military objectives and operational objectives. If the aim is to achieve optimum defence capability within given resources, then planning and programming should precede defence budgeting. In other words, it should be programme based budgeting whose key points are: (i) expenditure plans for a sequence of future years; (ii) expenditures are related to 'outputs' or capabilities to be acquired; (iii) the concept of 'affordability' in medium and long term, both in terms of revenue and capital expenditure are always explicitly considered; (iv) the concept of rolling budgeting is to be introduced as priorities may change because of change in environment.¹⁴

Multi-year expenditure plans and multi-year budgeting on a roll-on basis, are the main aspects of programme based budgeting. Both force planning and cost projection should be done on a multi-year basis if building of optimum defence capability is to be the goal of defence budgeting. 

Notes

- 1 Arthur Smithies, *The Budgetary Process in the United States*, McGraw Hill, 1955, pp20-34, excerpts in *Public Budgeting and Finance*,(ed) Golembiewski and Rabin P.E. Peacock Publishers, 1975.
- 2 Ibid.
- 3 Ibid.
- 4 'Estimates Committee of the Parliament(1992-93)' , para 1.65.
- 5 David Novick, 'Program Budgeting', RAND, 1965, pp. 91.
- 6 Ibid.
- 7 'Standing Committee Report',para 2.1, pp 29.
- 8 'Standing Committee on Defence of Parliament, Demands for Grants 2006-07', para 2.8, pp. 31-32.
- 9 At http://www.budget.gov.au/2006-06/overview/html/overview_13.htm.
- 10 William L. Stanley, 'Assessing the Affordability of Fighter Aircraft Force Modernization', in Paul K. Davis (ed.) *New Challenges of Defense Planning*, RAND 1994, pp. 568.
- 11 Ibid, pp. 583.
- 12 'Standing Committee on Defence , Demands for Grants 2006-07',para 5.4, pp. 60.
- 13 Ibid. Para 5.6.
- 14 Richard J. Hillestad & Paul K. Davis, *Resource Allocation for the New Defense Strategy, The Dyna Rank Decision Support System*, RAND, 1998, pp. 12-15.