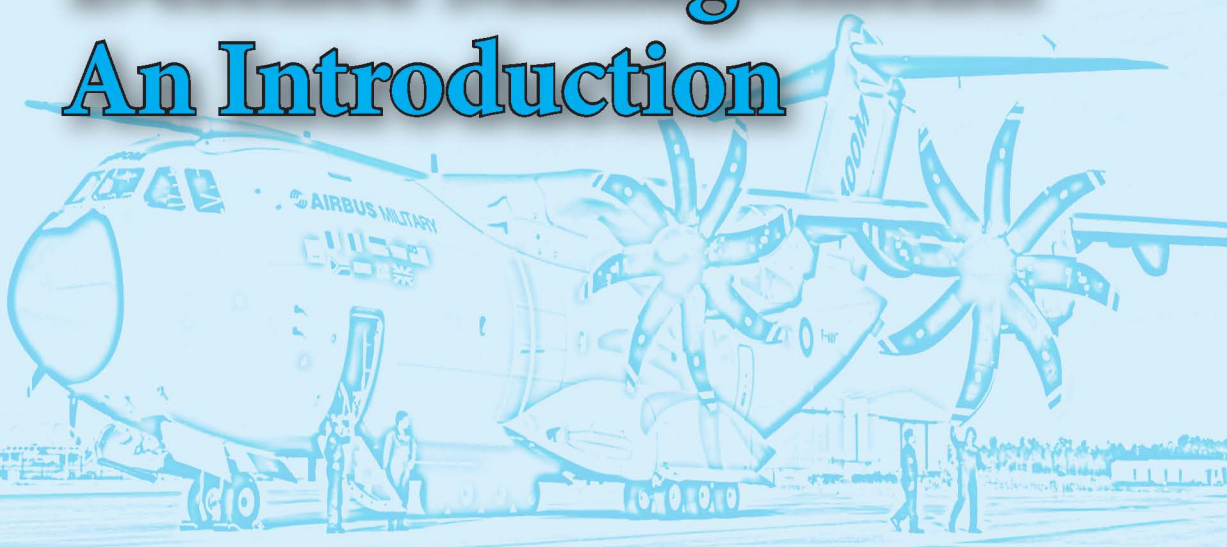
Defence Management: An Introduction



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DEFENCE MANAGEMENT
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Geneva, 2009

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PREFACE

Philipp Fluri
DCAF Deputy Director

With security sector reform an ever important concern, an easy to read introduction to defence management has been in high demand.

The present volume is the fruit of cooperation between DCAF and the Ministry of Defence of Estonia. I would like to thank DCAF associate senior fellows Drs. Bucur-Marcu and Tagarev for their diligent work editing this elegant volume and all contributors for their time and effort in writing articles, which do justice to their scholarship and profound expertise.

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Geneva, January 2009

Introduction

Hari Bucur-Marcu

In historical terms, defence management emerged as a topic of interest for the defence sector not too long ago. It is no more than five decades since some Western nations introduced the concept of managing defence in addressing such issues as allocating financial or human resources, solving strategic or operational problems in a comprehensive approach, or using business-like tools governing the defence sector. Such an enterprise requires excellence at all levels and in every department of the defence establishment. One proven way of achieving this is to apply the managerial functions of planning, organising, leading and controlling to those segments and activities of the defence organisation that may contribute to maximising the operational performance of armed forces.

The problems in need of managerial solutions are similar throughout the entire Euro-Atlantic space, regardless of the status of each individual nation, be it a North Atlantic Treaty Organization (NATO) member or a partner. Some of these problems are decades old but became urgent in the last fifteen years or so. Among these problems, the cuts in personnel and spendings as a result of the 'peace dividends' after the end of the Cold war, as well as the increased demands for more deployable forces that operate far away from their home bases and have to be sustained for longer periods.

To consider the application of managerial approaches to these and other similar problems, they should emerge in the general context of democratic concerns on the status of defence and enquiries related to outputs and outcomes of the defence sector in general, and the defence forces in particular. This is a pre-condition of great importance, since it is very unlikely that any organisation financed with public money, including defence organisations, would ever initiate their own measures to increase efficiency, unless there are incentives or pressure exercised from above. If this observation is accepted, then any theoretical approach to defence management should be anchored in the realm of democratic control over defence and the armed forces.

Defining Defence Management

There is no universally agreed definition of 'defence management,' but it simply encapsulates the idea that defence organisations need to turn defence policies into practice, and in doing so, to develop appropriate and sustainable planning mechanisms, support systems and infrastructure.

More than half a century ago, defence was identified as a public good produced by a democratic government on behalf of the people. About the same time, the scientific world discovered that governments are by their very nature inefficient producers of public goods. The question then became how the governments can provide defence in a more efficient manner, and part of the answer was to introduce managerial practices to defence. In turn, management may be described as the science or the coherent way an organisation is acting in order to meet its objectives in given conditions, in an effective and efficient manner, by adequately performing the functions of planning, organising, leading and controlling.

The modernisation of the defence sector is another central challenge governments in the Euro-Atlantic community have been facing for at least a decade. Some nations are concentrating on transforming their armed forces to better respond to the new security challenges of the 21st Century, while others are undertaking more ambitious overhauls of the entire domain of defence under the goal of building new defence institutions, especially the nations that recently transitioned from communist to democratic regimes or that are still in the final phases of this transition. All these states have strategic expectations from security and defence sector reforms, rightfully considering the success of these reforms as facilitating their integration in the Euro-Atlantic community and enhancing their people's security and prosperity.

The achievement of these strategic goals requires better distribution of constrained public resources, a more efficient way of utilising these resources and a more visible and accountable outcome of governmental programmes, including defence programmes. In more and more nations, the public administration is replacing its rather inflexible and highly bureaucratic form of working on behalf of the public with more flexible and accountable public sector management. The question then is how governments can 'produce defence' in a more efficient manner. Part of the answer is seen in the introduction of good managerial practices from the business sector into defence, where the achievement of expected results in a competitive environment is paramount for the survival of any organisation.

The NATO-EAPC[1] initiative in the field of partnership cooperation entitled *Partnership Action Plan on Defence Institution Building* (PAP-DIB) may offer a good example

[1] NATO-EAPC stands for North Atlantic Treaty Organisation – Euro Atlantic Partnership Council. Both the members of the Alliance and the partners are represented in this council.

of combining national incentives for reforms through better institutionalisation of defence with the international interest in supporting such a programme. Part of this initiative deals directly with the concept of defence management. One of the objectives stated in the PAP-DIB document, namely objective five, calls for the nations embarking on building defence institutions to "develop effective and transparent measures to optimise the management of defence ministries and agencies with responsibility for defence matters, and associated force structures, including procedures to promote inter-agency co-operation," while objective nine deals with the management of defence spending.[2]

In a managerial sense, planning is different from planning for military operations, yet it still has a direct impact on force development or procurement of major military equipment. Managerial planning implies both focussing on the ultimate goals as stated in relevant policies and flexibility in achieving these goals. Also in a managerial sense, organising implies bringing flexibility to rigid structures by organising work processes within these structures instead of re-organising the structures themselves. At its turn, leading implies both assuming responsibilities and delegating elements of the decision-making process, which differs from the well established command chain in the armed forces. Controlling means mostly to keep track of developments and intervene whenever necessary to re-focus staff on objectives.

On the other hand, defence management does not and cannot substitute the specific military processes of planning and conducting military operations, or acquiring combat readiness. What defence management can do is to join up people within the defence organisations with training for missions, with equipment and support for better accomplishment of the defence objectives and missions.

Where Defence Management Stands within the Defence Sector

As an institutional process, the management of defence is situated between defence policy formulation and actual command and control of the military forces. It should address areas of action such as defence resource management, personnel management, acquisition management, where—during defence policy implementation—it is likely that inherent uncertainties require higher flexibility and subsequent decisions, and unexpected problems might occur, requiring proper identification and appropriate solutions.

Over time and in different nations, managerial systems were introduced and tested for their relevance in terms of planning, efficiency and accountability. Developed specifically for the public sector or borrowed from the business practices, systems such as

[2] NATO Basic Texts: *Partnership Action Plan on Defence Institution Building (PAP-DIB)* (Brussels, 7 June 2004), available on-line at www.nato.int/docu/basictxt/b040607e.htm.

Planning, Programming, Budgeting System (PPBS), Performance Management System (PMS) or Total Quality Management (TQM) have a history of successes and failures that deserve a critical treatment in a book on defence management. The main observation is that no theoretical approach to defence management in general provides for a specific management system or management philosophy. What is essential for a nation, that has identified a genuine need for improving the performance of its defence sector, is to understand that introducing a managerial culture in the sector is even more important than the managerial tools that nation chooses to implement.

From both theory and practice, we may conclude that there are only two main management approaches, and these two approaches are not mutually exclusive. One can be described as identifying problems and finding solutions to those problems, and the other one can be described as finding solutions for how to do things better.

Defence management brings clarity to areas of activity with high uncertainty as to whether the path taken to meet the objectives is the right one, or the problems encountered are properly identified and solved, while leaving other areas to function as they were. Table 1 depicts different levels of management within ministries of defence, in comparison with two other important areas of organisational activity, namely policy formulation and planning.

There is strategic defence management, which is the locus where strategic problems are identified and strategic solutions are analysed, decided and implemented. Life is full of examples of such problems. The most important ones, in strategic terms, are usually described as addressing different aspects of the question 'how much is enough?' Defence management may bring more coherent solutions to dilemmas like 'guns or butter' (dealing with the opportunity costs of defence versus other public goods, and with an optimal allocation of national resources), or national self-sufficiency in defence capabilities versus shared responsibilities with other partners or allies and the appropriate delegation of sovereignty.

Then there is an operational management, addressing the problems of defence performance, especially at the services level, but also at the general level, e.g., in dealing with manpower or logistics. And there is, of course, defence management at the current level, dealing with day-to-day problems and solutions in any defence command or unit.

It is expected that these types of management be differentiated according to their level at least in terms of mechanism and procedures, while the managerial tools remain the same (they were developed regardless of their level of application). In practice, these levels might be identified more by the nature of managerial function than the mechanisms employed.

Table 1: Roles and Place of Management at Different Defence Organisational Levels.

Level	Policy	Planning	Management
Strategic	National security strategy Strategic defence concept	Defence planning directive Strategic capabilities plan	• how to implement strategic policies and plans • identify and solve strategic problems
Operational	Military strategy Executive policies (i.e. personnel, procurement, public affairs) Joint service (Army, Air, Navy) doctrines	Operational plans Capability development programmes Procurement programmes Training programmes	• how to implement operational policies, strategies and doctrines • identify and solve operational problems
Current	Terms of reference Organisation's mission statement Standard Operating Procedures (SOP) Job descriptions	Work plans Exercise plans Field operations plans	• how to implement organisational policies and current plans • identify and solve current problems

Institutional Requirements for Successful Defence Management

Wherever defence management emerged both as a conceptual and a practical approach to efficiency of the defence sector, there were huge expectations surrounding it but also genuine anxieties. The experience of different nations shows that some glamorous defence initiatives failed to deliver years after their implementation. As a whole, the record of delivery in key areas of defence remains inconsistent. Time and again, governments had to go back to first principles and develop new approaches to ensure an appropriate level of efficiency of public spendings on defence. They had to put actions on their agendas aimed to better clarify future directions of change, as well as key underlying concepts of management to be embedded in defence.

Be it efficiency oriented or more problem solving oriented, defence management requires certain conditions related to existing decision-making frameworks and imple-

mentation systems. Among these conditions we may name supervision, accountability, inclusiveness, legitimacy, morality and many others. Whenever such conditions are not met, actions should be taken in order to create them. Here we are facing a dilemma. Is creating the appropriate conditions part of the defence management framework, or is it a component of another domain, such as defence institutionalisation or defence planning? The obvious answer is that creating the appropriate conditions is not managerial in nature, so long as management is dealing more with implementing policies and finding solutions rather than defining requirements.

At the level of the defence sector proper, some institutional requirements should be considered in order to grant a fair chance of success to any enterprise to introduce managerial tools and practices. Ministries of defence, if they want to be successful, have to meet two conditions when developing and introducing such managerial tools and practices: they have to be part of the management framework of the general government and they should provide an organisational structure separate from the defence staff. In other words, a ministry of defence should adopt the same managerial philosophy as the general government, even if the domain of defence makes this ministry distinct among all others in the government. This is important for ensuring an appropriate dialogue between policy makers at all levels of government and for facilitating the flow of resources necessary for implementing the policies. Looking around the Euro-Atlantic community, we can find examples of governments that paid special attention to their ministries of defence in the process of introducing different forms of management, such as resource allocation based on programmes and multi-annual planning.

But there are also governments that kept their ministries of defence apart from the trials and experiments that characterised the implementation phase of new management in public governance. Regardless of the implementation phases, eventually all these ministries should adopt the same managerial philosophy. This implies appropriate training of all personnel involved in managerial actions, institutionalisation of managerial principles and procedures, as well as acquiring organisational experience through at least one planning cycle before considering that the management system has been implemented.

As for the separation between civilian and military leadership and their staffs, this condition is of paramount importance if we consider management as being an organisational enhancer and not a substitute for well-established military command and control procedures. That is to say that management would be the primary responsibility of civilian leaders, while military commanders would maintain their current roles and would not be transformed into managers. This separation is presented here for theoretical purposes only. In reality, we may notice a blurred demarcation between civilian and military roles in defence management, especially at the strategic level. If the key

task of defence management were to steer the efforts of the defence organisation toward effective and efficient implementation of policy goals and objectives, then all matters other than the conduct of military operations would fall in the remit of defence management, whether in the realm of civilians or military.

The institutionalisation of defence management bears the local specificity of every nation or defence sector. Some nations choose to establish defence management boards or councils with dedicated missions and terms of reference, while other nations make no institutional separation between organisational structures and management tasks.[3] In this section we look only at institutionalisation requirements, or principles, leaving the appropriate structures and functions aside.

The main institutional requirements for successfully managing a ministry of defence comprise (certainly there are many more aspects that might be brought into the discussion but they may not carry the same management specificity as these ones):

- Legality of all organisational and institutional measures
- Appropriate mechanisms and procedures for managerial decisions and for supervision
- Accountability regulations
- Inclusion of all participants in the implementation phases of managerial decisions.

Legality is one of the most important institutional conditions for any organisation, and it preserves its importance for the defence organisations as well. It is expected that the introduction of any managerial framework in the defence sector will be accompanied or preceded by appropriate legislation. Such legislation should include provisions regulating organisational structures and their managerial attributes. Whenever

[3] Just to give some examples, in the United Kingdom, there is the Defence Council chaired by the Secretary of State and comprising the highest-raking civilians and military officers, and tasked to serve as the highest decision-making body for the conduct of defence affairs. Here, defence management is in the remit of the Defence Management Board, chaired by the Permanent Under Secretary and providing senior-level leadership and strategic management of Defence. The Board is comprised of the non-Ministerial members of the Defence Council and external, independent non-executive members. In the United States of America there is just a Defence Management Council, mirroring an internal board of directors in a corporation and comprising senior civilians and military in high positions in the Department of Defence. In France, there are two committees at the level of the Ministry of Defence: the Ministerial Committee on Defence Investments, chaired by the Minister of Defence and tasked to examine the operational requirements that must be satisfied, but also the financial and economic information relating to the most important investments within the Ministry before they are launched, and the Finance Committee, which deals with budgetary issues.

the public domain is involved, and especially in the security and defence sectors, clear-cut legal provisions give a sense of protection against abuses and corruption but also assign responsibility to both military and civilian leaders for their decisions and actions.

Moreover, a legally established decision-making system would allow for flexibility in policy implementation. Any effective mechanism of policy formulation and implementation within the government, and in the defence sector in particular, would comprise a system of checks and balances to ensure both that the policy is consistent with the supreme goals and interests of the nation, and that it is clearly understood and effectively implemented by the appropriate organisations. Nevertheless, the implementation phase is never linear. Some of the intentions might not be fully understood, others might not be realistic, and still others may become obsolete during implementation due to changing external or internal conditions.

In a fully bureaucratic and rigid system, any such instances would require reiteration of the policy formulation process and a referral to the decision-makers at most senior levels, which in practical terms often equates to not implementing the policy at all. In most if not all cases, such situations lead to serious waste of the scarce resources already invested in such failed policy implementation efforts. If the system permits, from a legal point of view, to take corrective managerial actions in policy implementation, there would be no need to reiterate the process of policy formulation as long as the objectives remain the same. The managers would be responsible, in the name of the law, for reaching the objectives stated in the policy, while using their discretionary powers to choose appropriate paths for implementing this policy. Also in legal terms, it is expected that all civil servant positions at all levels of the organisational hierarchy would have clearly stated managerial remits.

For effective and successful defence management, it is important that appropriate decision-making and supervision mechanisms and procedures are fully institutionalised. For defence purposes, the most important quality control systems are those measuring performance at the strategic level, namely matching policy goals and objectives with concrete defence outcomes such as force structures and capabilities. But supervision mechanisms should be developed at all levels. For the operational level and, especially, for the current level, this institutionalisation implies remits of supervision established in job descriptions and standard operating procedures for civilian and military personnel in executive positions, and these remits should be associated with appropriate quality control mechanisms or systems developed at the appropriate level.

Institutionalisation of supervision mechanisms implies also introducing procedures for the flows of information up and down in the defence organisation, as no real supervision can be effective in the absence of appropriate knowledge about relevant as-

pects and achievements in policy implementation. These supervision mechanisms should respond to questions such as:

- Is the policy fully understood by the military?
- How is the policy implemented?
- What are the results of the policy, once implemented?

The answers to these questions should be obtained by employing appropriate tools. One possible selection of such tools comprises authorisation tools (approval of implementation documents such as strategies, doctrines, concepts or regulations; authorisation of funds within budget execution; endorsement of procedures, programme supervision and so on) and verification tools (theoretical models, simulations, trials, evaluation exercises, inspections, surveys and interviews, reviews and lessons learned, auditing and others). Through the institutionalisation process, these tools would be assigned to dedicated positions within the defence organisation, accompanied by appropriate description.

Accountability should also be institutionalised. In a managerial sense, the main accounting mechanism that should be fully institutionalised is a comprehensive reporting system. Such a system would reveal partial and final results of programmes and actions for the implementation of policies and strategies. Moreover, the institutionalisation requires provisions and regulations for reporting within and between defence structures, and facilitating both hierarchical and peer exchange of information. Such a reporting system would by no means replace classical auditing systems.

Inclusiveness, as an institutionalisation requirement, deals with organisational relations among staff members. In a managerial sense, the members of the staff should be encouraged to participate in all processes of policy implementation. This requirement should be translated into organisational regulations, such as standard operating procedures that guide and facilitate such participation.

The most important feature of defence management institutionalisation is the employment of managerial tools in order to enhance organisational performance in accomplishing missions and to find the best solutions to the problems identified during the process of defence policy implementation. As an applied science, the management developed a large array of tools, from overall philosophies to small problem solving mathematical instruments. Most if not all of these tools are suitable to be used in the management of defence organisations.

What tools the defence organisation actually uses may be a matter of both external and internal decisions. It is expected, however, that the defence sector adopts the same main managerial system as the general government. As mentioned above, examples of such managerial philosophies or overall management systems are Total Quality Management, Performance Management and implementation of a Planning,

Programming, and Budgeting System. Within this overall managerial philosophy, the ministry of defence would decide on which main tools would be employed across defence organisations. Such tools are the Balanced Scorecard, Benchmarking, and Process Reengineering.

It is important to regulate the tools and mechanisms employed in defence management for several reasons. Firstly, clear regulations serve the principle of unity of purpose. All members of the organisation would 'speak the same language' and would spend less time and effort trying to understand what the others are saying or doing. Secondly, the establishment of common, defence-wide tools and mechanisms facilitates training and organisational learning.

An area that does not need much regulation is the use of 'technical' tools such as charts and diagrams, calculators, pathways, graphs, brainstorming, and many others. Units within the defence organisation should have the independence to choose which of these management tools they want to employ and for what tasks.

About This Book

What theoretical and practical aspects of defence management should be of primary interest to civilian and military leaders and their staffs; to advisers and consultants; academic and professional researchers; and to students on defence issues in nations considering a managerial approach to defence? While the publication of public sector management is getting momentum in recent years, the literature on defence management is still scarce and scattered over a large array of topics of varying significance for the holistic understanding of the matter.

This introductory text aims to set a framework for further discussion on the topic of defence management. The first chapter is an extensive theoretical treatment on defence management and its place among the complementary and to an extent competing concepts of policy making, management, administration, command and control, and leadership. The second chapter covers the topic of defence planning as a core process within defence management, which guides the reader through the complicated process of planning while highlighting the main challenges, as well as tools and mechanisms that might be useful in the process. The third chapter of the book, representing the basics of program-based force development, shows how programmes are used to relate policy objectives to resource allocation decisions. The fourth chapter of this book covers the management of finances and introduces and assesses the key issues of finance management in defence. The fifth chapter explores the complexity of manpower management in the context of national security and presents a comprehensive analysis of demand and supply of human resources for defence. The sixth chapter deals with acquisition management and the specifics of identifying appropriate requirements, acquiring and maintaining complex weapon systems, other equipment and

services for the defence sector. The final chapter offers insight into the legislative framework for formulating defence policies and managing their implementation, with a focus on best practices in ensuring proper spending of public resources.

We hope that this book will add value to those individuals seeking an initial clarification of basic aspects of efficiency and effectiveness of defence. With the aim of reflecting the latest thinking in the field, the authors offer comprehensive analyses of the topic from both theoretical and practical points of view. They introduce and assess the main principles and theories underlying changes in the managerial approach to defence, as well as best practices on specific areas such as organisational management, planning, manpower, acquisition and finance. There is still room for clarifications of specific roles and interactions between defence management and other defence topics, such as defence institutionalisation, democratic control, policy and strategy, and defence planning.

We believe that this book will contribute to understanding the basic requirements nations should consider before applying management approaches to defence and what are the specific issues in transitioning to defence management practices in different areas or departments of the defence organisation.

Chapter 1

Governance, Management, Command, Leadership: Setting the Context for Studies of Defence Management

Valeri Ratchev

Introduction

The underlying idea of a modern defence institution is that it is able to define and achieve desired goals and objectives in an efficient manner and within an empowering democratic environment. Such defence institutions are effective, i.e., they are 'getting things done.' They are also efficient, that is they are able to produce desired effects without waste, minimising energy and costs. Transparency and accountability in the functioning of such defence institutions form the ground for genuine civil oversight of defence decision making and performance.

There are no more or less important among these facets of the modern defence organisation. Each one is unique and absolutely necessary for getting maximum results for minimum cost in defence. To some degree one could compensate the insufficiencies in one or another of them but in the long-term, only a well developed and carefully maintained package of these characteristics provides stable, effective and efficient defence institutions capable of meeting public expectations and contributing to the consolidation of democratic institutions.

The challenge to the modern defence institution at present is to provide a new balance between the tasks of the armed forces and the means available in order to create affordable armed forces with sufficient room for operations and capital investments. In an era of ever more constrained resources and changing strategic requirements, there is a growing need to extract maximum benefit from the money spent on defence. And this is the mission of defence management.

The requirements for effectiveness and efficiency are certainly not unique to defence organisations. Any business has to be effective and efficient in order to prosper, or even to survive. And yet, defence organisations cannot be managed purely like businesses. National defence has a comprehensive and in many cases vital role for a nation. It often has a strong impact on political, social, nation- and state-building developments and is managed like a profit-oriented corporation.

Therefore, this chapter provides an explanation of what is defence governance, how it differentiates from management and command and what is the role of strategic leadership. On that basis, we identify the areas of defence institutions that could be strongly enhanced through adoption of modern business practices. As a result, the value of defence management is explained vis-à-vis traditional military bureaucratic or command approaches.

The chapter does not preach a particular model of defence management. Instead, it sets the context for detailed examination of the key defence management issues in following chapters. The themes and issues presented here are based on data and observations in countries creating, reforming, or transforming their defence institutions and, without detailed elaboration, illustrate main points to be considered by those involved in arguing, planning, designing and implementing defence institution-building activities. Thus, it provides orientation to policy makers who want to learn how a defence institution could be developed as an effective and democratic pillar of national and international security, producing adequate defence at a socially acceptable cost.

Conceptual Orientation

A number of terms are used to explain how a defence institution is run – 'government,' 'political directing,' 'governance,' management,' 'public administration,' 'strategic leadership,' 'command and control,' etc. In everyday language and institutional documents, these terms are often seen as synonyms. Actually, each of them represents a specific conceptual view and approach applicable in the overall national context or the specific context of a defence institution. Moreover, in the area of institution-building they are often perceived to be of a 'Western' origin (and concern) that have only recently rippled outward to other nations. Without simplification, they are relevant in a different manner to different political systems, state organisations and types of defence institu-

tions. And they could be appropriate to describe a country's historical development, culture, economic and social maturity, and strategic environment.

The efforts to create, reform or transform a national defence institution require the elaboration of a sufficiently coherent concept with adequate breadth and depth to provide guidance for building an organisation, capable of performing politically designated roles and functions effectively and efficiently. The lessons learned from the experience of other countries may be relevant but the political development of any single country makes its defence institution a particular case. Furthermore, although most of the central issues in defence institution-building, development and transformation are generic, and as such must be confronted in any democracy, the differences from one country to another "in history, security environment, and institutional structures can be so vast that the lessons learned in the older, more 'mature' democracies often are not fully relevant to new ones."[1]

Defence institutions could not be developed in isolation from the country's political, administrative and cultural realities. Defence is specific to a certain degree and could not be an island of rationalism, effectiveness and efficiency in a national environment where other governmental structures are deeply bureaucratised. Its development, reform or transformation could lead the national governmental modernisation process, which happened in many Eastern European countries in their preparation to join NATO. The basic concept of a defence institution should reflect issues like national administrative culture and traditions, existence of managerial capacity at the political, macro-organisational and performance levels, the private business environment, educational and training capacities, and the readiness of the society to accept radical innovations and comprehensive change.

At the same time, national defence in democratic societies is traditionally oriented towards external military threats. The predictability of the strategic environment of a country also impacts the elaboration of its specific defence concept. The national chain of command, the defence decision-making process, the procedures for defence resource allocation and the size of the defence budget, and the organisation, structure and dislocation of the armed forces are, to a large extent, a function of the national (societal, political, defence establishment) perception of military threats. The concept of organising defence and developing defence institutions depends on the level of the perceived threat. When the threat is high, the decision-making process becomes shorter and less transparent, defence institutions are more 'militarised' and the role of civilians is marginalized. When the country enjoys a stable strategic environment, es-

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1 Thomas C. Bruneau and Richard B. Goetze Jr., "Ministries of Defense and Democratic Control," in *Who Guards the Guardians and How: Democratic Civil-Military Relations*, ed. Thomas C. Bruneau and Scott D. Tollefson (Austin, TX: University of Texas Press, 2008), 71-98; quote on pp. 71-72.

pecially when it belongs to a large and reliable alliance, the defence institution is less 'exceptional,' is more transparent and does not differ much from other public institutions.

In the case of intensive institutional development or deep organisational change of defence, however, it is difficult to contextualise the subject without first knowing what concepts are actually represented by different terms. Below we look at several main terms and their respective concepts: government and governance, management and defence management, public administration, command and control, and leadership.

'Government' and 'Governance'

The concepts of 'government' and 'governance' differ in terms of content and focus, and have different historical background. As explained by the authoritative Canadian Institute on Governance:

> a not-uncommon tendency is to use governance as a synonym for 'government.' This confusion of terms can have unfortunate consequences. A public policy issue where the heart of the matter is a problem of 'governance' becomes defined implicitly as a problem of 'government,' with the corollary that the onus for 'fixing' it necessarily rested with government.[2]

The root of the word 'government' in both Greek and Latin has the meaning 'to steer.' The dichotomy between 'government' and 'governance' originates in the answers of the two basic questions of politics: who should govern and how strong should governmental control be? And how should political executive power be distributed, both within government and the society?

Depending on 'who governs,' the historically established forms of government are: anarchy (no one rules), dictatorship (one-person rule); aristocracy (minority rule); democracy (majority rule) and unanimity (all rule). Democracy is only one of the forms of government. It is characterised by Abraham Lincoln as "government of the people, by the people, for the people." The ancient Greek philosopher Aristotle has said that "the true forms of government ... are those in which the one, or the few, or the many govern, with a view to the common interest."[3] Democratic government is about public purposes wherein the government itself should be the servant of the people—rather than their master—for the strength of real democracy depends on certain fundamental

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[2] Texts on the issue are available at the Institute on Governance' (IOG) website: www.iog.ca. This particular citation is from John Graham, Bruce Amos, and Tim Plumptre, *Governance Principles for Protected Areas in the 21st Century*, IOG Policy Brief No. 15 (Ottawa: IOG, August 2003), 2, available at http://www.iog.ca/publications/policybrief15.pdf.

[3] "Aristotle: from The Politics," c. 340 BCE, Book III, in *Internet Ancient History Sourcebook*, www.fordham.edu/halsall/ancient/aristotle-politics1.html.

rights and freedoms. These rights and freedoms must be protected to make sure that a democracy will succeed. Democracy is about equality. We put the emphasis on liberal democratic government following the classical explanation by Alexis de Tocqueville and others that liberalism is about freedom. Without going into details, we accept the thesis that modern societies of the 21st century aim to establish effective and efficient liberal democracies instead of building democracies without liberalism.[4]

The required level of strength of government in a democracy is determined by the understanding that governments have to be constrained, not that they be weak. People with authoritarian thinking perceive weakness when observing political processes and decision-making marked by transparency, debates and dissent, accountability and substantial public oversight and control. In fact, these are the underlying strengths of a democracy. Key components of governmental power in democracy are the areas in which it keeps monopoly of authority. Depending on the maturity of democracy and the development of the market economy, these may include, *inter alia*, monopoly of natural resources, land, roads and foreign policy. The use of military power and deadly violence should always be only in the hands of the democratic government. Hence the thesis that outside the state security sector there should be no military, paramilitary, police or intelligence organisations. All such organisations should be integrated into an overall political decision-making process marked by civil control in order to keep them effective and under democratic rule.

The existence of an effective system of checks and balances is among the most important characteristics of any democracy. It is aimed to guarantee that political power is sufficiently dispersed and decentralised to avoid any possible monopolisation and to keep the people in control of governance as much as possible. The use of checks and balances through separation of powers actually means more sharing of responsibilities and obligations than real division. This notion is very important for the proper design of mechanisms for formulating and implementing a defence policy.[5] In this environment, the strength of every centre of power is not to command, but to argue and persuade. The system can often be slow, complicated and even inefficient, but it provides an important protection against the potential abuse of power by any single party – an issue that every democracy must confront.

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4 This thesis is perfectly argued by Giovanni Sartori, *The Theory of Democracy Revisited* (Chatham, NJ: Chatham House Publishers, 1987).

5 For a definition of the term 'defence policy' and its relation to defence management refer to Todor Tagarev, "The Art of Shaping Defense Policy: Scope, Components, Relationships (but no Algorithms)," *Connections: The Quarterly Journal* 5, no. 1 (Spring-Summer 2006): 15-34, https://consortium.pims.org/the-art-of-shaping-defense-policy-scope-components-relationships-but-no-algorithms.

From the classic to the modern representative (republican) government, the state has been seen as a political society capable of establishing control through political choice. It determines the central government as the principal provider of control and regulations over the national (state) territory. In this capacity, the government has capabilities to defend this territory and the national interests using military power (alone or together with other instruments) and to defend and promote national interests abroad (alone or with allies) in case they are threatened by another military force. The fact that the likelihood of modern democratic states finding themselves in a classic type of war has diminished in recent years does not mean that this role no longer matters nor that government (the executive) is the only centre with authority and responsibility to determine and implement defence policy.

The wide use of the concept of 'governance' started only recently. Definitions of governance abound.[6] In accordance with Paul Hirst, governance is generally perceived as an alternative to the central (strong) 'government,' i.e., to control by the state. He outlines five versions of 'governance' in different political, international, business and social arenas:[7]

Corporate governance, which arises from having large and influential companies with highly dispersed shareholders on one side and an active professional management on the other, aims to provide transparency and accountability of the executive management and to prevent companies from becoming autocracies in an environment where democracy is the primary source of legitimacy.

Public governance, which arises from privatising traditional public administrative and service functions, aims to introduce a new model of public services distinct from that of public administration under hierarchical control and direct accountability to politically elected officials.

Social governance is arising 'in silence' as a new type of network-based governing that includes actors such as labour unions, business associations, NGOs and local authority representatives aimed at new, centrally bargained social pacts.

International governance uses the concept of 'governance without government' in the fields of international relations and regimes. It is based on the widely recognised fact that many global and international issues like global warming, international trade, arms control, and international standards in many areas cannot be solved by nation states alone. Internalisation of governance performed by inter-governmental agreements and powerful agencies like the International Monetary Fund, the World Trade Organisation, the World Bank, and the G8 expanding private actions and 'the retreat of

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6 Joan Corkery, ed., *Governance: Concepts and Applications* (Brussels: IIAS Working Group, International Institute for Administrative Studies, 1999), 368-371.

7 Paul Hirst, "Democracy and Governance," in *Debating Governance: Authority, Steering, and Democracy*, ed. Jon Pierre (Oxford: Oxford University Press, 2000), 13-35.

state' raises important questions about who controls these international supra-state actors and how, and do they limit the power and the capacity of democracy.

Good governance first gained ground in the area of economic and social development. Widely supported by western countries and promoted through the power of international agencies such as the World Bank and the International Monetary Fund as a set of economic and social-political conditions for their loans, 'good governance' is a concept based on the understanding that it is not possible to have effective economic management and a stable social environment without full application of democratic and market principles. The concept recognises the fact that development is not just the creation of markets and the promotion of investments and firm macroeconomic policies, but also that state and social institutions, laws and regulations, human and citizen values do matter. In this way, 'good governance' as a concept means an effective political framework conductive to private economic actions – stable regimes (not necessarily democratic), rule of law, efficient state administration and (real) civil society. As a strategy, it is aimed at developing a version of liberal social architecture with clear separation between limited state and, to the extent possible, self-regulating society and market economy. Defining the principles of 'good governance' is difficult and often controversial yet there is a list of principles around which there might be wide agreement, even beyond liberal democracies. Such an agreement rests in part on the considerable work done by the United Nations Development Program on international law and human rights:[8]

- Participation – all men and women should have a voice in decision making, either directly or through legitimate intermediate institutions that represent them. Such broad participation is built on freedom of association and speech, as well as on capacities to participate constructively.
- Consensus orientation – among differing interests, good governance mediates these differences to achieve a broad consensus on what is in the best interest of the group and, where possible, on policies and procedures.
- Strategic vision – leaders and the public have a broad and long-term perspective on good governance and human development, along with a sense of what is needed for such development. There is also an understanding of the historical, cultural and social complexities in which that perspective is grounded.

[8] United Nations Development Program (UNDP), *Governance and Sustainable Human Development* (1997). These principles with slight variations appear in many other UNDP documents. See, for example, *UNDP and Governance: Experiences and Lessons Learned*, http://mirror.undp.org/magnet/docs/gov/Lessons1.htm.

- Responsiveness – institutions try to serve all stakeholders and, respectively, implement adequate procedures.
- Effectiveness and efficiency – processes and institutions produce results that meet needs while making the best use of resources.
- Accountability – decision-makers in government, the private sector and civil society organisations are accountable to the public, as well as to institutional stakeholders. This accountability differs depending on the organisation and whether the decision is internal or external.
- Transparency – transparency is built on the free flow of information. Processes, institutions and information are directly accessible by those concerned, and sufficient information is available to understand and monitor their activity.
- Equity – all men and women have opportunities to improve or maintain their wellbeing.
- Rule of Law – legal frameworks should be fair and enforced impartially, particularly laws on human rights.

As mentioned previously, defence policy is formulated and implemented not only by the defence organisation per se but also by a variety of other governmental sectors and societal actors. Respectively, the issue of governance may be examined at two levels.

At the national level, governance relates to how other actors, such as state agencies, local administration, civil society organisations, businesses, and others may play a role in the process of shaping and implementing defence policy decisions, in particular when the decisions are on matters of public concern.

On the level of the defence institution, we can speak of organisational governance or governance in the 'organisational space.' It comprises those activities of the defence ministry for which it usually accounts to the Government, the President (when this position includes the function of supreme commander of the armed forces), and Parliament (or 'the board of directors').

To summarise the discussion on 'governance' as a concept, we can accept the following definition, often seen as universally applicable to each of the above mentioned five types of governance:

> Governance is the interactions among structures, processes and traditions that determine how power and responsibilities are exercised, how decisions are taken, and how citizens or other stakeholders have their say. Fundamentally, it is about power, relationships and accountability: who has influence, who decides, and how decision makers are held accountable.[9]

[9] Ibid.

Management and 'Defence Management'

The term 'management' historically has been and is used in a variety of ways. It can refer to the many decisions required to run a complex production or non-profit organisation, state agency or local administrative unit. This is a kind of descriptive approach used to explain management as a process and the jobs that managers and supervisors do. Alternatively, management could be applied by someone in order to direct people to achieve a concrete private aim with fewer resources and in the shortest possible time. We may use 'management' also to refer to a discipline of knowledge that has accumulated approaches based on political, economic, sociological, psychological or anthropological theory and philosophy in order to create a systematic approach (theory) of how particular aims could be achieved through 'scientifically' determined actions (strategy, policy), creating and using appropriate organisation and utilising determined (limited) resources.

The roots of modern management are in both administration and business, which should be the reference point when someone is adapting management principles and practices to other areas of public, private or personal activities. Management 'fathers' like Henri Fayol, Max Weber, and Chester Bernard have focused on total organisations, while others like Frederick W. Taylor, Henry Gantt, and Lillian and Frank Gilbreth aimed to increase productivity.[10] Both directions of these early studies of management involved research and applied work and formed the so-called administrative theory and scientific management as the backbone of classical management theory. Administrative theory emphasised management functions and attempted to generate broad administrative principles to serve as guidelines for the rationalisation of organisational activities. Taylor and his followers, on the other hand, insisted that it was possible to scientifically analyze tasks performed by individual workers in order to discover those procedures that would produce the maximum output with the minimum input of energy and resources.

Building on classical views on management, contemporary theories tend to account for and help interpret the rapidly changing nature of today's organisational environments.

Contingency theory asserts that when managers make a decision, they must take into account all aspects of the current situation and act on those that are key to the situation at hand. Basically, this is the 'it depends' approach. For example, the continuing effort to identify the best leadership or management style might currently conclude that the best style depends on the situation. If one is leading troops in combat,

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[10] Frederick W. Taylor, *Principles of Scientific Management* (New York, NY: Harper & Brothers, 1911).

an autocratic style might be best. If one is leading a hospital or university, a more participative and facilitative leadership style may be recommended.

Systems theory has had a significant effect on management science and understanding of organisations. A 'system' is a collection of parts unified to accomplish an overall goal. If one part of the system is removed or changed, the nature of the system is changed as well. A system can be looked at as having inputs, processes, outputs and outcomes. Systems share feedback among each of these four aspects of the systems. In an organisation, inputs would include resources such as raw materials, money, technologies and people. These inputs go through a process where they are planned, organised, motivated and controlled to meet organisational goals. Outputs would be products, such as force capabilities. Enhanced quality of life or the state of national security would be outcomes. Feedback would be the information from clients or public perception of security provided by the state. This overall system framework applies to any system, including subsystems (departments, programs, etc.) in the overall organisation.

Complexity theory recognises that events in the organisation and its outer environment are rarely controlled since, with time, systems become more complex. In this evolution they also become more volatile (or susceptible to influences with cataclysmic effects) and must therefore spend more energy to maintain that complexity. As they expend more energy, they seek more structure to maintain stability. This trend continues until the system splits, combines with another complex system or falls apart entirely.

For the purpose of this book, management can be examined as a process of planning, organising and staffing, directing, and controlling activities in an organisation in a systematic way to achieve a particular common (institutional) goal. It is both a scientific method and an art of empowering people and making an organisation more effective and efficient than it would have been without management and managers (ministers, directors, commanders). Respectively, the four pillars of management are: planning, organising and staffing, directing and leading, and monitoring and controlling. These functions are universal no matter whether a manager runs a shoe store, a department or an air force wing.

Planning is the selection and sequential ordering of tasks that are required to achieve the desired organisational goal. Plans could be strategic, long-term or short term, deliberate or contingency. The plan explains the aim and approaches (strategy, policies, principles) and is the foundation for decisions on organising and staffing.

Organising and staffing is the assignment and co-ordination of roles, tasks and duties to be performed by the units or members of an organisation and distribution of the necessary resources among them in order to achieve a desired goal within a specified time-frame. It includes the process of recruitment, selection, training, placement and

development of the staff in accordance with their desired roles and tasks. The quality of the staff and the way it is organised determines the style of directing.

Directing and leading is the process of motivating, leading and influencing staff on the way towards achieving the common goal. Directing requires organisational sense and skills, and leadership capacity to motivate the followers through a congenial working atmosphere. Directing could be effective all the way through to the common goal if it is complemented by systematic monitoring and control.

Monitoring and controlling are the actions a manager (commander) takes to ensure that all his or her units are moving towards the objective in a coordinated manner. In other words, control is used to ensure that when the success of a unit in achieving its objective depends on an action taken by another unit, that action is taken.

These basic conceptual views, theories, principles and functions of management are applicable to a defence organisation. Obviously, the origin of the term 'defence management' is rooted in the understanding that the defence organisation is a large, complex and multi-layer institution as any other governmental or big business organisation.

Every big organisation needs planning, which is carried out by the manager. In one way or another s/he decides how the business will be run and/or what his/her unit will do over a period of time. In other words, the manager sets the objectives towards which s/he and all his/her subordinates will work. The big difference between industrial and military planning is that the military plans for war are all contingent, at least during peacetime – they are aimed at eventual objectives which will be pursued only in war. The industrial planner, on the other hand, is preparing for actual operations that are certain to take place within the next year or perhaps a year or two later. Defence planning that provides general preparedness for war is closer to industrial planning, because its purpose is to prepare soldiers and material in the right combination, albeit for an eventuality.

Every manager is building, maintaining, organising and staffing his or her organisation. A manager must decide what is the most economic combination of resources that would allow planned objectives to be accomplished. The same is applicable to the military commander's vision and concept of operations. Both do this to facilitate control of individuals and units as they work towards the achievement of the planned objective.

Managers and commanders direct and lead subordinates using different skills and instruments to increase their motivation and physical and psychological mobilisation, which, during a combat mission, could come to the level of self-sacrifice. The instruments are quite different indeed but the effect on pursuing the objectives is similar.

Monitoring and controlling the performance give the manager and the commander understanding about the effectiveness and efficiency of their decisions and the neces-

sary corrections in original plans. Whether of a market or a bureaucratic type, the control strategy must provide both managers and commanders with relevant, timely and reliable information on the progress, as well as on changes in the internal and external environment that may require corrective measures or a completely new strategy.

Nevertheless, the defence organisation differs in several specific aspects and any ambition to implement business practices and administrative techniques drawn from general examples should be carefully analysed. We do not seek artificial arguments in order to make defence a particular case. At the same time, a distinct defence management concept cannot, and should not, be detached from the approaches to managing other public and business organisations in the national democratic environment.

The relations between civilians and the military, among other factors, make defence policymaking and defence management distinct from other public policies and other established management models. Arguably, the particular model of civil-military relations in a country has a decisive impact on the defence organisation and its governance, management or command and control. The unique nature of the military—or what Samuel Huntington designates as its 'functional imperative'—is sometimes thought to be a barrier to the application of principles and practices from other disciplines such as management, administration, leadership, etc. Authoritative researchers of public administration and management note that applications of modern conceptual views from rapidly developing disciplines to defence policy "... often appear to fall short."[11]

Richard Kohn concludes that today the civilian control of the military presents two types of challenges: for mature democracies with experience of strong civilian control and military establishments focused on external defence, the test is whether civilians can exercise supremacy in defence policy and decision-making. Civilians can face great obstacles in exercising their authority at times when the military enjoy great prestige, possess advanced bureaucratic skills, believe that their ability to fulfil its mission may be at risk, or doubts the civilian leadership.[12]

New or newly-emerging democracies without much experience in combining popular government and civilian control face an even greater challenge: to assure that the military will not attempt to overthrow an elected government, or defy civilian authority. Then the chief requirement is to establish a tradition of civilian control, to develop a solid system of political neutrality within the military establishment and to pre-

[11] Jason Dempsey, Jay Parker, and Thomas Sherlock, "Introduction to Civil-Military Symposium: Public Administration and Management," *Public Administration and Management* 10, no. 2 (2005): 57-60.

[12] Richard H. Kohn, "An Essay on Civilian Control of the Military," *American Diplomacy* 2, no. 1 (1997), www.unc.edu/depts/diplomat/AD_Issues/amdipl_3/kohn.html.

vent or forestall on a permanent basis any possibility of military intervention in political life.

Continuing his deliberations, Kohn argues that the task of building a modern defence institution is to establish and sustain civilian control over the formulation and the implementation of national security policy. In new democracies, the challenge is more formidable – in attempting to establish their supremacy over military affairs, civilians risk provoking disobedience of the military and—in lacking public support—perhaps even military intervention.

The difficulties in applying concepts, theories and practices from the civilian world to defence stem from the fact that war, as stated by Clausewitz and confirmed by recent experience in Yugoslavia, Afghanistan, Iraq and Chechnya, 'has its own grammar.' Modern and post-modern societies have developed a comprehensive understanding and political practices in national security policy decision-making in which defence/military policy are treated as a major component of security policy.[13] These include administration and organisation (establishment of a defence ministry), legislation (introducing defence laws), parliamentarian control (establishing a defence committee), public transparency and accountability (enhancing civil society's capacity on defence issues) and appointment of civilians in defence institutions, etc. In such an environment, the formulation, articulation and strategic balancing of national security and defence interests, distribution of roles and overall resource allocation among formulated objectives and security sector organisations are all the responsibility of civilian political leaders, not an autonomous purview of the uniformed military.

Performing such a role, civilian leaders use practices like 'political directing,' 'administrative and organisational management,' 'strategic and political leadership,' 'resource management' and 'feedback and control,' etc. Within the same framework, militaries use terms like 'staff work' (which is different than 'administrative work'), 'command and control' (which is different than 'feedback') and 'military ethos and leadership' (which do not coincide with social moral principles and pluralism-based political leadership). An excellent illustration on this coupling is provided by Peter Feaver who states that "the civil-military challenge is to reconcile a military strong enough to do anything civilians ask them to do with a military subordinate enough to do only what civilians authorize them to do."[14] The defence organisation (from a national or governmental perspective), its political directing and operational management, the national military chain of command and the leadership in defence should reflect these particularities to prevent degradation of the relations between civilians and the military into

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[13] However, with very few exceptions, that is hardly the case for other components of the security policy.

[14] Peter D. Feaver, 'The Civil-Military Problematique: Huntington, Janowitz, and the Question of Civilian Control," *Armed Forces and Society* 23, no. 2 (Winter 1996): 149-178.

two mutually exclusive and contradictory groups. In any case, recognising the pivotal role of civil-military relations is critical for designing and managing defence institutions.

Accounting for these considerations, it is important to clarify what the 'ministry' (or 'department') of defence should do. In countries with a freely elected legislature, the defence institution is first and foremost a governmental body through which the elected executives issue guidance, instructions and orders to the nation's military. Second, it is also an operational headquarters where this guidance is transformed into operational plans and corresponding requirements for funding, human and material resources, legislation and other forms of support. Finally, the ministry should be the 'central administration' of national defence in general, dealing in detail with armed forces' personnel, finances, logistics, procurement, training, social support and infrastructure.

With all these functions in mind, there is a need for a proper concept of how to organise and run a defence ministry. There are three distinct areas – *political directing*, *command of operations* and everything else, which could be determined as the area of defence management. They have to be co-ordinated but require separate conceptualisation, widely different professional skills, leadership capacity and teams, and are based on different regulations and practices. It is not possible to perform all three basic functions using one and the same conceptual and procedural matrix. The objective of providing the nation with an effective, transparent, and accountable defence organisation puts a premium on the good organisation and adequate conceptualization of operations in each of those particular areas.

It has been suggested to look at a defence institution as 'a big business organisation' that could be run entirely as a business unit. Conceptually, this means implementation of a 'total defence management concept' based on respective concepts and practices of major industrial organisations, organised along functional lines. Actually, a detailed analysis of the 'defence product' from political, sociological, and social psychological point of view does not provide useful precedents. Products of defence are not only the combat capabilities of the armed forces,[15] but also a public and political sense of security, the international status of the country, the overall national character and its disposition to those of other nations, the collective sense about democracy and democratic governance, etc. Meeting such a set of diverse requirements presumes a complex yet differentiated approach to defence organisation and operation.

It can be concluded that, while modern management theories and practices can be useful in seeking general explanations and overall guiding considerations for organizing and assessing the performance of defence institutions, the application of specific management techniques should be limited to activities outside political directing and operational command such as human resource management, financial management,

[15] Todor Tagarev, "Methodology for Defence and Force Planning," in *Methodology and Scenarios for Defence Planning* (Sofia: Military Publishing House, 2007): 179-207.

weapon systems lifecycle management, material supply and service management, military installations and real property lifecycle management, as well as programme and risk management. The combined contribution of advanced management is vital for the success of defence transformation initiatives.

Public Administration

The main feature of the concept of public administration is the role of civil society in the governing process. As it is well known, civil society can only exist in a liberal democratic political environment. Hence, the application of the concept of public administration in its original form is possible only if a civil society exists, it is sufficiently mature and consolidated, and has the will and capacity to influence the government and the process of the governance. The governing powers, on the other hand, are sufficiently mature and understand that civil society's engagement gives more power and durability to the government and does not erode it. Woodrow Wilson, one of the fathers of so-called progressive thinking and the 28th president of the United States, raised questions about the appropriate level of citizens' participation in government decision-making in his 1887 article entitled *The Study of Administration*. He described the problem as "What part shall public opinion take in the conduct of public administration?" His answer was that public opinion shall play the part of authoritative critic. Wilson did not question the right of the public to influence the administration; rather, the question was how to provide for public participation.

Max Weber, credited as the father of modern sociology, wrote about the ideal type of this organisational form while analysing the phenomena of administrative bureaucracy. Weber's bureaucracy is based on the principles of fixed jurisdictional areas, office hierarchy and levels of graded authority. The structure of the bureaucracy is permanent and has the following characteristics: promotion based on merit; secure employee tenure; a pyramidal structure; authority in supervisory positions; and a system of explicit rules. Weber's bureaucracy supposes that an individual works his or her way up from the bottom of the pyramidal structure to the top, gaining authority and wage increases on the way. Weber's theory of bureaucracy is still relevant today. However, his notion of 'unity of command' (all orders come from one individual down the line) has been criticised.[16]

[16] For Luther Gulick, work division supervised by subordinates in a chain of command is a way to be more effective. He believes that "work division is the foundation of organisation; indeed the reason for organization." Gerald Garvey reasons that the central issue in classical organisational theory is the placement of authority and expert knowledge within the organisation. Actually, much of the contemporary literature focuses on the merits of putting authority in the hands of one leader versus distributing that power to line staff, and the risk accompa-

The famous scholar and writer Peter F. Drucker believes that the concept of public administration derives from management.[17] As he argues, after the Great Depression people were angry with all business managers that failed to overcome the challenge of rapidly growing industries and allowed the economic and social catastrophe with global implications. In order to avoid negative attitudes towards the managers of public affairs and services, they were distinguished from the compromised business managers through introduction of the concept of public administration.[18] A main goal of this new discipline has been to clearly differentiate the running of the public sector from both the political process and business practices.

Indeed, scholars focus traditionally on areas of public administration, such as classical organisational theory, Wilson's political vs. administrative dichotomy, federalism, and managing employees. Recently, the field of public administration was expanded to include a variety of modern topics such as policy analysis, economics for public managers, theory of motivation, leadership, ethics, decision-making theory, conflict management, effectiveness and efficiency, budgeting, accountability to and representation of the people, intergovernmental relations and human resource management. The fact that public administration derives from such a broad range of disciplines such as psychology, economics, political science, organisational theory and administrative law indicates that there is no 'one best way to govern.' This is not to say that the questions and problems of public administration are no longer relevant – in fact, they are as relevant today as they were over one hundred years ago.

The differentiation between political governance and running administrative bodies in the interest of civil society serves as a core element of widespread modern public administration concepts and practices. In a recent book, Anthony Bertelli and Laurence Lynn summarise the experience and theoretical findings in main texts on public administration and conclude that "they reveal a professional reasoning process that explores the interrelationships among democratic values; the dangers of an uncontrolled, politically corrupted or irresponsible bureaucracy; the corruptibility of the legislative process; the impressions of popular control of administration; and the difficulties of de-

nying that power – citations from Gerald Garvey, ed., *Public Administration: The Profession and the Practice* (New York, NY: St. Martin's Press, 1997).

17 Actually, humans have been interested in the field known today as public administration since a time pre-dating Plato's *The Republic*, in which Plato discusses administrative issues of governance.

18 Peter F. Drucker, *Management Challenges for the 21st Century* (London: Butterworth-Heinemann, 1999).

signing judicial and executive institutions that can balance capacity with control in a constitutionally appropriate manner."[19]

The politics-administration dichotomy is in the core of the debate on public administration concepts and theory. The premise of having dichotomy is that politics and administration serve different intentions. There is a clear distinction between elected politicians who are authorised by the society to govern and the experts-based administration that has—in practice if not in law—a dual role both to support the governing bodies in the implementation of their duties and to defend the interests of the society from political voluntarism. The basic aim of the elected-to-govern politicians is to generate ideas, establish sets of public objectives and make decisions on resources, activities and legislation in order to turn ideas into reality. The purpose of public administrators is to provide neutral expertise in support of the design and implementation of political decisions. In this understanding of the dichotomy, "administration lies outside the proper sphere of politics."[20] In the interplay between these two building blocks the politicians should design and guide the public administration to the maximum possible political extent. On the other hand, the administrators should be subject matter experts, neutral in providing their expertise and organised in professional hierarchy, distinguished from the political level, but under political control and leadership.[21]

Applied to defence institutions, the public administration concept should reflect the fact that in addition to politicians and administrators, the corps of military professionals also comes into play. These three parties construct the 'deadly triangle' of the defence organisation. The place of the political (elected) leadership at the top seems to be understandable but even this is questioned, as the experience of some countries shows. These are countries that apply the 'Prussian type' of higher military organisation – a 'General Staff,' subordinated directly or at least informally to the head of the state and not to the minister of defence. The role of the administration in this model is also questioned on the grounds that presumably the General Staff—and not the administration—is in possession of the defence expertise. The interest of the General Staff is to be the only body representing and presenting defence advice to politicians and to be responsible to as few levels of state hierarchy as possible (at a minimum, not to be responsible to the defence administration). Such parallelism is unavoidable even when the de-

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19 Anthony M. Bertelli and Laurence E. Lynn, Jr., *Madison's Managers: Public Administration and the Constitution* (Baltimore, MD: Johns Hopkins University Press, 2006).

20 Tansu Demir and Ronald C. Nyhan, "The Politics-Administration Dichotomy: An Empirical Search for Correspondence between Theory and Practice," *Public Administration Review* 68, no. 1 (January-February 2008): 81-96.

21 Gary Miller, "Above Politics: Credible Commitment and Efficiency in the Design of Public Agencies," *Journal of Public Administration Research and Theory* 10, no. 2 (2000): 289-328, cited by Tansu Demir and Ronal Nyhan, ibid.

fence minister has formal control over the higher military. It raises many questions related to both civil-military relations and the effectiveness of the defence institution. The most important among them are:

- The lack of internal mechanisms to locate a balance between the priorities of senior members of the military and those of the minister of defence (in case of disagreement, the final judgement is made by the prime-minister or the president)
- A single source of expertise ("who else knows defence issues better than the senior military?") and the respective lack of alternatives
- A limited capacity for effective civilian control (in practice, only the minister personally has control)
- Overpopulated headquarters with considerable duplication of structures and functions
- The impossibility of applying modern management methods and techniques (the General Staff works as military staff even when performing entirely administrative functions).

The alternative organisational solution is to implement the so-called concept of 'integrated ministry of defence.' It is based on the presumption that the strategic commander of the armed forces in peace and war is a political figure – usually the president and/or the minister of defence, not a senior member of the military. The role of the senior military is to provide advice to authorised politicians and to organise the implementation of their decisions within the armed forces, i.e., s/he has no direct command authority. In this case, the military headquarters is established as 'joint HQ' and internal balance is provided through equality of two senior professional positions – the senior military officer and the senior civilian administrator. In case of divergence between civilian and military expertise, the arbiter is the minister of defence. The highest level of the defence organisation is integrated – departments with civilian and military personnel produce joint expertise and advice based on consensus.

In any case, there is a principal question about the distinction between the elected political leadership and the professional civilian and military administrators: can professional staff assist the politicians in defence policy formulation and implementation without jeopardizing their identity as managers grounded in the value of efficiency? Professional administrative officers and senior military staff play a unique role in a democratic political system. They operate at the intersection between the political and administrative worlds (plus the operational command in the case of defence) and determine both the way democracy operates in favour of the public interest and the efficiency of defence policy in providing a 'defence product' for the limited national resources dedicated to defence. Despite the desire of these managers and commanders

simply to do their job, they cannot avoid the fact that their role places them on a very prominent stage thus ensuring continuous examination of their roles, responsibilities and values as they continue serving the needs of elected officials who are operating in an even more challenging environment.[22]

In order to resolve the dichotomy between political and administrative roles, some countries place political appointees within the administrative structure of the Ministry of Defence. Usually, these are directors or chiefs of departments of critical importance for the formulation and implementation of the defence policy. Normally their positions are explicitly defined in a normative document. This is necessary to avoid eventual attempts at politicisation of the defence administration. In some cases, the legal norm defines how many employees the minister may assign on political principles. A number of governments have identified the need for a flexible approach, particularly in areas such as international military co-operation, defence policy and planning, and resource management. All political appointees come in service with the minister and can leave with his or her departure without labour rights concerns. In any case, the introduction of 'political appointees' requires precise legislative regulation.

Leadership

The defence institution is maybe the only one among all governmental agencies that definitely depends on leadership. Preparing to elaborate an integral defence management concept, it is important to understand the difference between management and leadership. A strong and charismatic leadership in defence can overcome most management insufficiencies, which is a rare occurance in large for-profit organisations. Leaders get organisations and people to change. As Michael Maccoby puts it, management is a function that must be exercised in any business while leadership is a relationship between the leader and the led that can energise an organisation.[23]

According to the current wisdom, managers are principally administrators – they write plans, set budgets, monitor performance and evaluate progress. In every large organisation, the management function is actually exercised by a number of managers at different levels – it is not necessary for all functions to be performed by the same people. This means that the team of managers, more than any one of them individually, is most important for the success of the organisation. Moreover, some functions

[22] Questions asked by professor (Department of Public Administration, University of Kansas) and mayor John Nalbandian, "Reflections of a 'Pracademic' on the Logic of Politics and Administration," *Public Administration Review* 54, no. 6 (November-December 1994): 531-536.

[23] Michael Maccoby, "Understanding the Difference between Management and Leadership," *Research Technology Management* 43, no. 1 (January-February 2000): 57-59.

LEADERSHIP	MANAGEMENT
Leadership is an integrating relationship	Managers lead only by compelling people to follow their directions
Leaders use passion and stir emotions in organising people	The manager uses a formal, rational method of organising people
Leaders think innovatively	Managers think incrementally
Leaders follow their own intuition, which may be of more benefit to the defence institution	Managers do things 'by the book' and follow the institution's formal procedures
Institutions are often more loyal to a leader than to a manager	When a new leader is dedicated to changes, a conflict with traditional managers may arise
The leader is followed	The manager oversees
The leader believes that the organisation could work better	A manager knows how each layer of the system works

Figure 1: Key Differences between Leadership and Management.

can be performed by the team (department, sector, production unit), while others can be delegated to individual managers, thus freeing the team to do what they see as their primary job, i.e., a group of designers could delegate the administration to a manager. In this context, the manager is a leader only in the sense that the people are obliged to follow his directions related to a particular function.

In defence, leadership is of strategic importance. Its role is not only to build an honest vision for the future of national defence, the armed forces, and the people in defence, to formulate a credible strategy, to propose an adequate organisation to execute the strategy and to provide this organisation with necessary resources, but also to identify talent (people capable of performing the key jobs), to motivate these individuals to work productively and innovatively, to lead the organisation through all managerial functions and, generally, to build trust and confidence.

Command and Control

Command and control is an instrument and mechanism for producing concrete product(s) or value (for example, the accomplishment of a military mission). Command and control is about focusing the efforts of a number of entities (individuals and units) and resources towards the achievement of some task, objective, or goal. From this point of view, at the level of conceptualisation, command and control can be another synonym

of management. The similarity is visible especially when management is explained by a model of the overall decision-making process.

The NATO glossary defines 'command' as "the authority vested in an individual of the armed forces for the direction, coordination, and control of military forces," which is understood to include the respective responsibilities and activities in the implementation of orders related to the execution of operations.[24] Likewise, the U.S. *DoD Dictionary of Military and Associated Terms* defines 'Command and Control' as the "exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission...."[25]

However, militaries in different countries have specific experience in exercising command and control (C2).[26] Therefore, experts advise not to copy NATO, U.S. or another country's definition or model, but to focus on understanding the paradigm and the potential of a particular approach to command and control in order to develop a construct applicable to one's own realities. David S. Alberts and Richard E. Hayes present the philosophy of command and control exactly from this point of view.[27] They explain command and control through the prism of potentially universal application and define the following C2 functions as essential:

- Establishing intent: From the point of view of command, intent can be defined as a "concise expression of the purpose of the operation and the desired end state. It may also include the commander's assessment of the adversary commander's intent and an assessment of where and how much risk is acceptable during the operation."[28] In this definition, 'commander' is not limited to a particular level of command or to the civilian or military capacity of the commander. Having an adequate intent is not sufficient; the commander has also to express it adequately to guarantee that the staff and/or war-fighters understand and share his intent. Intent should also match the overall national security or national defence strategy.
- Determining roles, responsibilities, and relationships: Traditional notions of

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[24] *NATO Glossary of Terms and Definitions*, AAP-6(2008) (NATO Standardization Agency, 1 April 2008).

[25] *Department of Defense Dictionary of Military and Associated Terms*, Joint Publication 1-02 (Washington, D.C.: Joint Chiefs of Staff, 12 April 2001, as amended through 30 May 2008).

[26] Readers interested in the evolution of U.S. and other C2 concepts and models can find useful information at the website of the *Command and Control Research Program*, www.dodccrp.org.

[27] David S. Alberts and Richard E. Hayes, *Understanding Command and Control* (Washington, D.C.: Center for Advanced Concepts and Technology, 2006).

[28] *Department of Defense Dictionary of Military and Associated Terms*.

command and control assume a set of predefined hierarchical relationships that, for the most part, are fixed. But neither the existence of a hierarchy nor the static nature of relationships and assignments may be assumed. Roles, responsibilities, and relationships may be a result of self-organisation and may also change depending on time and circumstances. The determination of roles, responsibilities and relationships serves to enable, encourage and constrain specific types of behaviour. Within modern concepts such as network-centric warfare, collaboration is one such type of behaviour. David Alberts and Richard Hayes propose that assessments of the quality of a defence institution, i.e., the ability of a particular arrangement of roles, responsibilities, and relationships and their dynamics to perform the functions needed to accomplish intended tasks, should include consideration of: 1) the completeness of role allocation (are all necessary roles and responsibilities assigned?); 2) the existence of needed relationships; and 3) whether or not the assignees know and understand what is expected of them (in implementation of their roles). Issues of role overlap and role gaps are also relevant.[29]

- Establishing rules and constraints: A set of fixed and variable rules and constraints should be established within the command and control system. The rules and constraints reflecting a country's specific cultural, social, and behavioural customs and the traditions of its defence institution are fixed. Those that reflect the evolution of defence missions, environment, doctrine, capabilities and the flexible rules of engagement are variable. The extent to which established rules and constraints are understood, accepted and followed determines one of the important facets of the quality of command and control.
- Monitoring and assessing the situation and progress: One of the principles of defence performance is that it is based on first developing plans that should be executed later – after adequate organisational work and preparation. The whole set of initial conditions and preparation is subject to change. Thus, an integral part of any command and control system is how changes are recognised and adjustments are made. Monitoring and assessing any approach to command and control should cover the entire situation, its development and the overall process of planning, preparing and executing missions.
- Inspiring, motivating, and engendering trust: These three interrelated functions, normally associated with leadership, determine: 1) the extent to which individual participants are willing to contribute; and 2) the nature of the interactions that take place. The effects, the degree to which participants are inspired, motivated, and trust each other, and the products and services that

[29] Alberts and Hayes, *Understanding Command and Control,* 41.

are provided potentially affect transactions across the information, cognitive and social domains. The objects of trust are varied and include individuals, organisations and information collectors, as well as equipment and systems.[30]

- Training and education: Any system of command and control inevitably requires specific knowledge and skills that are products of education and training. This does not mean of course that the introduction of revolutionary military technologies leads to a requirement to educate all soldiers as engineers.
- Provisioning: The resources available constitute a critical factor in determining the feasibility of satisfying intent and the appropriateness of organisational arrangements. How well resources are allocated and utilised is often the determining factor in whether or not the intended purpose is achieved. Resource provisioning must be examined from both the institutional and mission perspectives, as well as from short- and long-term perspectives. The institutional long-term perspective relates to the development of defence capabilities. Provisioning in a mission context is almost always focused on the short-term and is about allocating available resources and sustaining operational efforts over time.

David Alberts and Richard Hayes provide evidence that these core functions are associated with command and control of any defence institution or mission. The functions may be carried out in many different ways. These differences boil down to how authority and relationships are determined, how decision rights are distributed, the nature of the processes involved, how information flows and the distribution of awareness. Specifying how these functions are performed determines the particular command and control approach and model.

Towards a Concept of Defence Management

The elaboration of a coherent concept for managing a defence institution is deeply rooted in the question: how unique is national defence compared to other national civic institutions? Answers can be found throughout the wide range of theoretical options and practices – between 'completely different,' 'different in some aspects only,' and 'completely civic.' If the focus is on the democratic spectrum of political organisation of societies, the answers depend on the sense of liberalism in a particular society. The three options differ in both subtle and unsubtle ways.

In the first case, 'completely different' could mean total exceptionalism of defence from the system of national civil service in terms of legal status, regulations, human and citizen rights, organisation of non-military segments, procedures for resource allo-

30 Ibid., 43-44.

cation, transparency and accountability.

In the second case, 'different in some aspects only' means that a particular society and state have a comprehensive set of national security instruments that, as a system, are designed to meet the public demands of security. Hence, defence should be distinguished from other civil institutions only in extraordinary situations or issues.

The third case, 'completely civic,' is usually seen in mature liberal democracies where a well developed society has established mechanisms for full objective and subjective control and responsibility of security sector institutions. Powerful and effective civil control puts the state institutions, including national defence, on equal footing.

In their recent study, Tansu Demir and Ronal Nyhan argue that the dichotomy between politics and administration continues to influence public administration, mainly because many administrators still promote the ethics of their neutral competence to protect their independence from political intrusions.[31] This is particularly important in defence where the disassociation of the military from politics is not only important for the institution, it is even vital for the society. In any case, in the development of a modern defence institution a way should be found to resolve the strenuous relationships among the three principal functional areas of defence – the areas of politics, administration and command with distinct purposes. A clear division of authority and labour is required between politicians, managers and commanders, while maintaining the cohesion of the institution and the coordination of all organisational processes. This is very challenging and every country decides in its own way, based on historical traditions, social development and overall bureaucratic culture.

Social Systems Approach

A defence ministry is a large, highly complex organisation no matter the size of the national armed forces. Harold Leavitt has described such organisations as a "lively set of interrelated systems designed to perform complicated tasks."[32] Understanding the modern defence institution begins with recognising that national defence as a political and social function of the state/government is performed in a social systems context. Notwithstanding how well draft decisions on national defence are supported by information and analyses, their final version is determined by foreign policy considerations, internal politics, intra-governmental affairs, public-private relations and even individual behaviour. With the end of the former ideological and strategic struggle and the ongoing rapid advances of globalisation and informatisation, the political and social environment changes quickly and in various ways. Modern public affairs are complex, di-

31 Demir and Nyhan, "The Politics-Administration Dichotomy: An Empirical Search for Correspondence between Theory and Practice," 81.

32 Harold J. Leavitt, *Managerial Psychology: An Introduction to Individuals, Pairs, and Groups in Organizations* (Chicago, IL: The University of Chicago Press, 1972), Chapter 24.

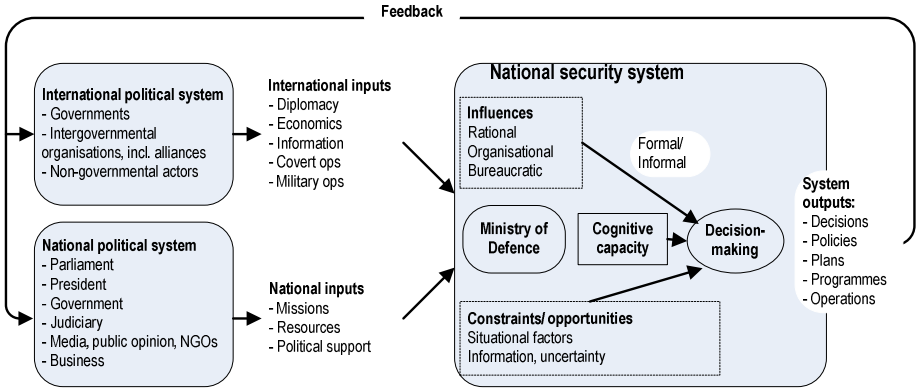

Figure 2: System Perspective on Defence Policy Decision-making.

verse and dynamic. Modern defence management is also complex, diverse and dynamic. A useful approach to explain the scope of the governance of defence is to define it in operational terms – what is it, what does it aim for, and how does it benefit society and the defence institution itself.

Following this line of thinking and basic management theory, it is useful to consider the external and internal contexts of defence management as interacting systems of a social nature.[33] Apparently, the defence institution is located among the most comprehensive social systems – the international political system to which the country belongs and the particular national social system. Both have distinct, and in many cases very different, types of 'input' into defence management (Figure 2).[34]

The international system exerts influence through the spread of threat perceptions, diplomatic manoeuvres, military technology developments, and creation of alliances and ad-hoc coalitions, among others. The international system is multi-dimensional and generally there is considerable conflict within it. Nevertheless, the most important members use direct relations or international norms and organisations to limit that conflict in its nuclear, ecological, human or trade dimensions. The term 'democratic community' may seem artificial to some but it does explain the policies (including the defence policies) of those governments that share common values and threat perceptions and contribute to the prevention, pre-emption and resolution of conflicts. While

[33] Briefly, a social system consists of two or more socially recognised actors who interact in variety of ways in achieving a common purpose or goal.

[34] An adapted version of a diagram used by Richard Norton in "Policy Making and Process: A Guide to Case Analysis," in *Case Studies in Policy Making*, ed. Hayat Alvi-Aziz and Stephen F. Knott, 11th edition (Newport, RI: Naval War College Press, 2008).

the international system is dominated by the behaviour of states, international inputs to national defence policies are also determined by the impact of international security and defence organisations and by non-governmental actors of a social (e.g., Amnesty International, Greenpeace) or business nature.

The national system defines the roles and mission of a defence institution, its strategy and organisation and provides available resources based mainly on the social perception for security-insecurity. Chronically insecure societies are suspicious, irritable and radical in terms of their social and political behaviour. Generally speaking, they are prone to making greater cutbacks of civil and democratic freedoms and radical decisions on regulations, defence budgets, and large-scale restructuring and contingency measures are adopted with relative ease. The defence institution itself should be capable of assimilating all these inputs using its cognitive capacity and producing outputs that both the national and international system expect to be rational and adequate in the circumstances. The organisational architecture is important during the respective process but more decisive is the influence of the bureaucratic culture, organisational behaviour and the people in the institution. For these reasons, no ministry of defence is equal to another even in mature democracies. To illustrate this statement, a defence manager failing to see the people behind institutional charts is a recipe for disaster.

In summary, the international and national political systems provide complex, continuous strategic and situational inputs into the defence policy decision making process. They may also be seen as 'customers' of the national 'defence product.' Of highest importance to defence policymaking is the international security environment, the foreign policy and security profile of the country, the governmental defence policy process and the roles of different stakeholders in its formulation and implementation.

The defence institution itself can be examined as a specific social system. It possesses all characteristics of the entire society such as traditions, culture, dynamics, internal relations, including the particularities during political transformation from totalitarianism towards democracy. The defence institution is crafted by people with their particular culture, interests and priorities that vary not only from one country to another but also, depending on a certain 'historical time,' personal agendas or goals.[35]

It has a specific organisation and operates under (frequently) unique norms, regulations and procedures in order to transform financial, material, human, and informational resources, dedicated by the society, into a 'defence product.' All this represents the internal context of defence management. Its particular aspect is that decision making on most important defence issues is not closed within the defence ministry, not even within the government.

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[35] Thomas C. Bruneau, *Ministries of Defense and Democratic Civil-Military Relations*, Faculty research papers (Monterey, CA: Center for Civil-Military Relations, Naval Postgraduate School, 2001).

The head of the state and especially the legislative branch play specific roles that in many cases reflect the specific national division and balance of political power, not only the rationale on defence matters. All these together represent the unique element of defence management – its fundamental civil-military character. The civil-military relations have pivotal role in defence management and that is exactly what makes defence different from any other governmental agency.

The articulation, strategic balancing and protection of the interests of national centres of political power are all responsibilities of the civilian leadership, while implementation is about the military. This sets the stage for a conflict. The conflict is essential and 'natural' for a democratic society and defence governance is dedicated to overcome it through the power of leadership and use of management skills. This is the moment to underline that only in this context the use of merely business management practices to run national defence is associated with failures. So are ambitions to apply completely bureaucratised planning and budgeting procedures that ignore advances made in business management.

In brief, the most important contextual internal shapers of defence policy are the defence institution with its human, financial and material resources, the national military doctrine and the maturity of national civil-military relations.

Integrated Context of Defence Management

In making defence management a rational instrument for defence institution-building, reform or transformation begins with recognising that all parties involved—politicians, managers and commanders—operate in specific external and internal contexts. It is important for politicians, managers, and commanders to understand and recognise how these contextual specifics influence the development of the defence institution and its performance. The continuum of defence policy formulation, implementation and evaluation describes the integrity of the external and internal context of defence institution (Figure 3).

The output ('product') of the defence system in a social context is generally the public and social sense of security and the defence and military capabilities that can be used by the government in different forms for variety of purposes. The measurement of the 'defence product' is a specific management problem. The existence of multiple stakeholders prescribes different evaluators – what is good for the minister of defence may not satisfy the requirements of senior military; what satisfies the military may not be accepted by the society, and so on.

From the point of view of business management, the assessment of the defence product is also complicated by the absence of 'competitors' or a 'market test.' This is so even inside of the military system of services. The fact that each military service—Army, Navy, or Air Force—has unique capabilities, doctrine, culture, and traditions

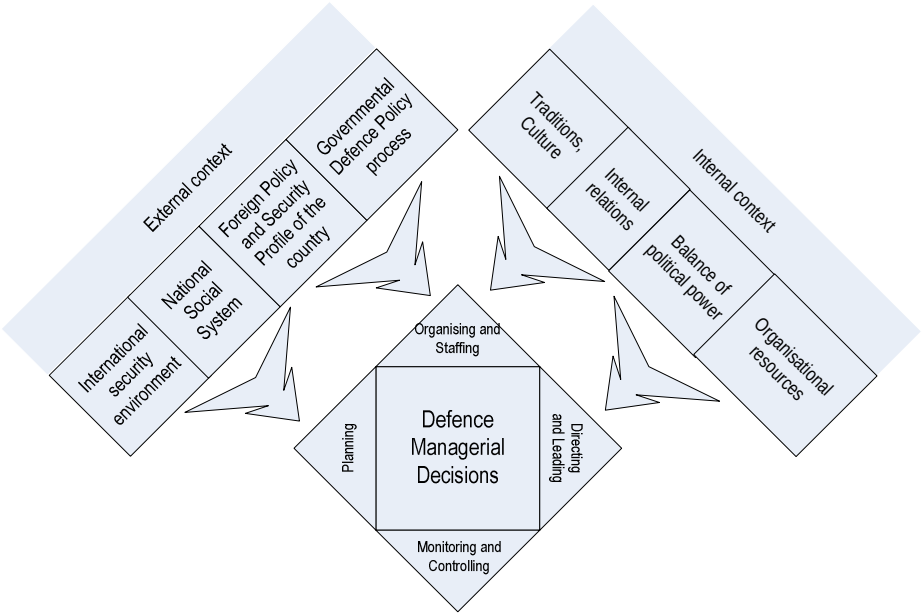

Figure 3: Internal and External Context of Defence Management.

creates another stage for conflict that the leadership should manage using mainly management techniques. In a more general context, the ambiguous relationship between organisational outputs and international outcomes makes it difficult to determine the contribution to national security of all security sector agencies. This is an area where perceptions and ideology may be as relevant as the actual data – measuring outputs is complicated by social, political, international and psychological factors.

Conclusion

Defence management employs a vast set of working methods such as operational, system and structural analyses, planning and programming, modelling and simulation, creation of alternatives, measuring performance and process improvement, project management, assessment of risks and many other methods and techniques applicable to different aspects of formulating and implementing a defence policy. It is the primary tool supporting any effort towards defence transformation.

Detailed examination of several defence management topics is provided in the follow on chapters. This chapter provided an elaboration of the differences among the notions of governance, management, administration, leadership and command, as well as of the role of civil-military relations in making the management of the defence or-

ganisation unique among all other state institutions and business organisations. Thus, the chapter sets a proper context for detailed studies of defence management, as well as for any attempt to enhance certain defence management mechanisms and the defence institution as a whole.

Chapter 2

Defence Planning – Core Processes in Defence Management

Todor Tagarev

Introduction

Many parliaments and defence establishments in Partner countries, as well as in a number of new NATO members, still struggle with the concept of defence policy, the relationship between policy and planning, the concept of capability, the linkage between plans and budgets, the relationship between force development and technological modernisation, and other high-visibility and costly issues. That is hardly surprising because—unlike in NATO—defence policy-making and planning in the Warsaw Pact was fully centralised. The capitals of Warsaw Pact countries, with the exception of Moscow, had either no or very limited knowledge and experience in defence policy and planning.

In addition, in the 1990s the defence establishments in the former Warsaw Pact countries and ex-Soviet republics were only a small part of what were immature and generally weak democratic institutions. Even under the impact of declining economies and the lack of an obvious enemy, senior political and military leaders felt safer implementing superficial changes while adhering to inherited force structures and force development models. One result is that, at the time of their accession, very few of the

new NATO members had any sizeable contribution to make to the capabilities of the Alliance.[1]

Therefore, this chapter looks at the notion of defence policy and the importance of the transparency of long-term planning and force development plans for the democratic governance of defence. It then examines various planning horizons and the interactions among the respective processes, thus explaining why and how defence planning constitutes a core defence management process. Thirdly, the chapter briefly introduces the reader to the possible alternative approaches to defence planning. The fourth part presents a framework model of linking policy objectives to force structure and explains the role of planning risks. The concluding part briefly touches on contexts for the national defence planning process and once again emphasises the importance of transparency of decision-making for the democratic accountability, effectiveness, and efficiency of a defence establishment.

The issues addressed in this chapter are not unique to NATO aspirants and partner countries. Our belief is that civilian and military experts from any country on the thorny path to democratic governance of defence would benefit from a better understanding of the linkages between security challenges and policy objectives to defence planning, on one hand, and defence planning to resource management mechanisms, on the other. Because, for example, it does not matter whether a Ministry of Defence implements a 'perfect' accounting system and transparent financial procedures if they support the development of a force structure that is not adequate to the security environment, the policy objectives and the strategy of the country.

Defence Planning as Integral Component of Defence Policy Making

Both NATO's *Glossary of Terms and Definitions*[2] and the U.S. DoD *Dictionary of Military and Associated Terms*[3] do not propose a definition of the term 'defence policy.' The DoD Dictionary defines national policy as a "broad course of action or statements of guidance adopted by the government at the national level in pursuit of national objectives."

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1 See, for example, Jeffrey Simon, "The New NATO Members: Will They Contribute?" *Strategic Forum* 160 (Washington, D.C.: National Defense University, April 1999), http://handle.dtic.mil/100.2/ADA394521.

2 *NATO Glossary of Terms and Definitions*, NATO Standarization Agreement AAP-6 (approved up to April 2008), www.nato.int/docu/stanag/aap006/aap-6-2008.pdf.

3 *Department of Defense Dictionary of Military and Associated Terms*, Joint Publication 1-02 (Washington, D.C.: Department of Defense, 12 April 2001, as amended through 30 May 2008), www.dtic.mil/doctrine/jel/new_pubs/jp1_02.pdf.

Among the authoritative definitions of 'policy,' the following two, provided in the Webster's dictionary, are appropriate for our discourse:

1. A definite *course or method of action* selected from among alternatives and in light of given conditions to guide and determine present and future decisions.
2. A high level overall *plan* embracing the general goals and acceptable procedures esp. of a governmental body.[4]

A good starting point in the discussion on defence policy is to clarify that the term covers comprehensively ends (what needs to be achieved), ways (how we intend to act) and means (with what we intend to achieve the ends).

Regarding defence and military matters, two distinct tasks are determining:

1. how to use available means to reach desired ends, e.g., in the event of military aggression against the country; and
2. the means that would allow militaries to deal effectively with likely future threats and challenges.

The first task comprises strategic and operational, both deliberate and contingency planning, as well as direction of troops in combat. It is often referred to as 'force employment.' The second task is a primary defence policy task and the focus of this chapter.

Although obvious to many readers, the premise that defence policy encompasses the definition of both ends and means is not easily understood and readily accepted everywhere, in particular in countries of the post-Soviet space. One reason is language.[5] In a number of languages, there is only one word—*politica*—that is used to translate both 'policy' and 'politics' and has strong connotations to everything 'political.'[6] Therefore, a quite common perception is that defence policy is in the realm of the politicians, but the term is understood narrowly as decisions on the ends, i.e., setting the objectives the armed forces must be able to attain.

On the other hand, and given the quite common lack of knowledge on military matters among politicians and their civilian staff in post-totalitarian countries, it is often taken for granted that only the military has the knowledge and the authority to define

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4 *Webster's Ninth New Collegiate Dictionary* (Springfield, Mass.: Merriam Webster Inc., 1991). Emphasis added.

5 Certainly, not the most important one. Lack of civilian expertise, prevalent patterns of civil-military relations and a culture of secrecy, among others, also contribute to opaqueness and inefficiency of defence policies, planning, and plans. See Daniel Nelson, "Beyond Defense Planning," in *Transparency in Defence Policy, Military Budgeting and Procurement*, ed. Todor Tagarev (Sofia: Geneva Centre for DCAF and George C. Marshall-Bulgaria, 2002).

6 In the Slavic and Romance languages for example.

Figure 1: Main Defence Planning Disciplines.

what forces are needed in order to meet the objectives (understood also as 'to implement the policy' as decided by politicians). According to Soviet terminology, for example, this is 'build-up' (*stroitel'stvo*) of the armed forces. In the post-Soviet times this understanding is often disguised as 'military policy.'

The purpose of defence planning, particularly long-term defence planning, is to define the means, including the future force structure (FS), that would allow defence institutions to deal effectively with likely future challenges. Thus, long-term defence planning is and should be examined as an integral component of defence policymaking.

The armed forces and their unique capabilities can play an important role in achieving defence policy objectives. In addition, defence planning encompasses the planning of armaments, logistics, command, control and communications (C3), resource planning, civil-military emergency planning and, in some cases, nuclear planning.[7] Several of these 'planning disciplines' deal with specific components of force

[7] These planning disciplines are traditional for NATO. There are a number of other related disciplines, which are closely linked to the defence planning process – air defence planning, standardisation, intelligence, operational planning and force generation. See "The Defence

capabilities. Therefore, force planning is considered a central process in defence planning that synchronises all other planning disciplines (Figure 1).[8]

The next part of this chapter explains why defence planning is the core defence management process and how it serves to steer all other defence management activities.

Defence Planning Horizons

In most mature defence management systems it is possible to distinguish three planning horizons and their respective processes:

- Long-term planning
- Mid-term planning, often designated as programming
- Short-term planning.

In long-term defence planning, planners analyse trends in the evolution of the security environment, including threats and challenges, the role of alliances and their policies, and security and defence strategies. By analyzing these trends, planners try to foresee defence requirements. They assess technology trends and the role of emerging technologies in novel ways of using the armed forces.[9] On that basis, they define a future force structure, described by its main parameters (e.g., the number of manoeuvre brigades and battalions, air and naval squadrons). This force structure is sometimes designated as a 'vision,' while France, for example, uses the term 'model' of the armed forces in some future year.

As a rule, planners also have to define the main steps in the transition from the current to the future force structure. Both the future force structure and the transition to it need to be realistic, i.e., decision makers and planners need to be fairly confident that the force and the transition will be sustainable under anticipated financial, technological, demographic and other important constraints.

Planning Process: What Does It Mean in Practice?" (updated 15 June 2007), www.nato.int/issues/dpp/practice.html.

8 *NATO Consultation*, *Command and Control Agency* – Overview, Presentation (October 2004).

9 Known also as "concepts of operations." For example, the interest of scientists and practitioners is currently focused on two novel concepts known as effects-based approach to operations" and "network-enabled operations." For details, the reader may refer to Edward A. Smith, *Complexity, Networking, and Effects-Based Approaches to Operations* (Washington, D.C.: Center for Advanced Concepts and Technology, 2006), www.dodccrp.org/files/Smith_Complexity.pdf, and the references therein.

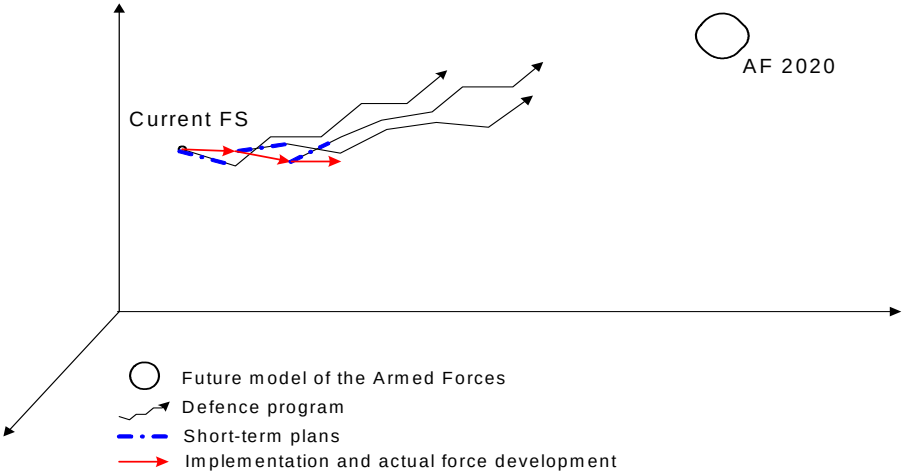

Figure 2: Linkages among Planning Horizons, Plans, and Implementation.

Long-term in this case means that the planning horizon exceeds the time necessary to develop the capabilities of the future force structure. Usually, this is a horizon of ten to fifteen years, particularly when a country relies on the procurement of 'off-the shelf' weapon systems, i.e., weapon systems developed by someone else and accessible on the market.[10]

A number of countries try to look further into the future and use even longer planning horizons. Typically, longer horizons are used:

a) when policy makers and planners examine foreign policy and security strategies, e.g., in attempts to analyse the way the world would look like in 2050, and to shape alliances, relations with neighbours and other countries, etc.; and/or

b) when a country has high technological ambitions and is willing to lead the development of new technologies that would eventually turn into new weapon systems 25 or 30 years in the future.[11]

For the purposes of visualisation, it is possible to present a force structure by a point in a space of its parameters, or phase space. Among the potential parameters

[10] It is not necessary that these weapon systems are fielded in the armed forces of some country by the time long-term planning takes place, assuming that the weapon system is at an advanced phase in the development cycle and will be available by the time a country decides to procure it.

[11] As a rule, paralleled by high defence industrial ambitions.

are capability levels, the numbers of units of particular types, numbers of personnel, major weapon systems, training levels, stocks of ammunition, spare parts and POL, etc. In this way, the development of the armed forces can be presented as a trajectory.

The future model of the armed forces, designated as AF 2020 in the example shown in Figure 2, defines an area of the parameter space and serves to guide force development over the years.

In particular, it guides the mid-term planning process. The main purpose of mid-term planning is to guarantee that the actual defence management activities, e.g., re-organisation, recruitment, procurement, training, spending money, etc., serve to achieve defence policy objectives and to build the respective future force. The horizon of mid-term planning is usually four to eight years. Such a horizon provides for the development—or at least for a qualitative change—of force capabilities.

The respective plan is often designated as 'programme,' and the mid-term planning process as programming. For decision making and other management purposes, the programme has a well developed hierarchical structure, including main defence programmes, sub-programmes, etc.[12] Many NATO countries use a six-year planning horizon for their defence programmes.

While in long-term defence planning it is recommended to explore options that, theoretically, may have nothing in common with the current force structure, during mid-term planning planners have to show very clearly how they provide for transition from the current force structure (FS) towards the future model of the armed forces (see Figure 2). Also, resource constraints become much more important – the mid-term plan, especially in its first years, is designed strictly within the expected resources and the defence budget forecast in particular. Short-term planning serves to detail the first one or two years of the mid-term plan, often in capability component plans—plans for recruitment, education, training, procurement, construction, etc.—and the respective budget.[13] Thus, they are designed strictly within the limits of the budget forecast.

When defence plans are designed in such a manner and meticulously implemented, all defence management activities are coordinated and lead towards the achievement of security and defence policy objectives. But even when this is the case,

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[12] For details, the reader may refer to Todor Tagarev, "Introduction to Program-based Defense Resource Management," *Connections: The Quarterly Journal* 5, no. 1 (Spring-Summer 2006): 55-69, https://consortium.pims.org/introduction-to-program-based-defense-resource-management-0.

[13] Countries with well established defence planning and budget management systems often use two-year plans. This approach also corresponds to a two-year cycle of defence programming, such as in the United States. Recently, The United Kingdom introduced a four-year budget cycle with specific procedures for incorporating unforeseen requirements within this long budgeting cycle.

unforeseen events and changes in the environment cause deviations from the short-term plans. As a result, the actual force development trajectory strays from the one designated by the mid-term plan.

Many defence planning systems deal with this type of uncertainty through a roll-on mechanism of mid-term planning. New mid-term plans (or programmes) are designed annually or every other year, with the consequent short-term planning and implementation, thus allowing to steer force development towards the future model of the armed forces (see Figure 2).

A qualitative change in the force development environment—emergence of a new threat, joining an alliance, impact of disruptive technologies, transition to a fully contract-based force, considerable shift in governmental priorities, etc.—may render the future model of the armed forces either inadequate to the strategic circumstances, unaffordable, or both. In such cases, countries with mature defence planning mechanisms launch a new long-term planning process without delay, often as a part of a 'strategic defence review.' This new long-term planning cycle produces a new future model of the armed force, e.g., 'AF 2025,' that is used to guide mid-term planning and all other defence management processes (see Figure 3).

The design of the future force structure may be approached from different perspectives, depending on the main driving factors. The following section briefly presents the main alternative approaches to defence planning.

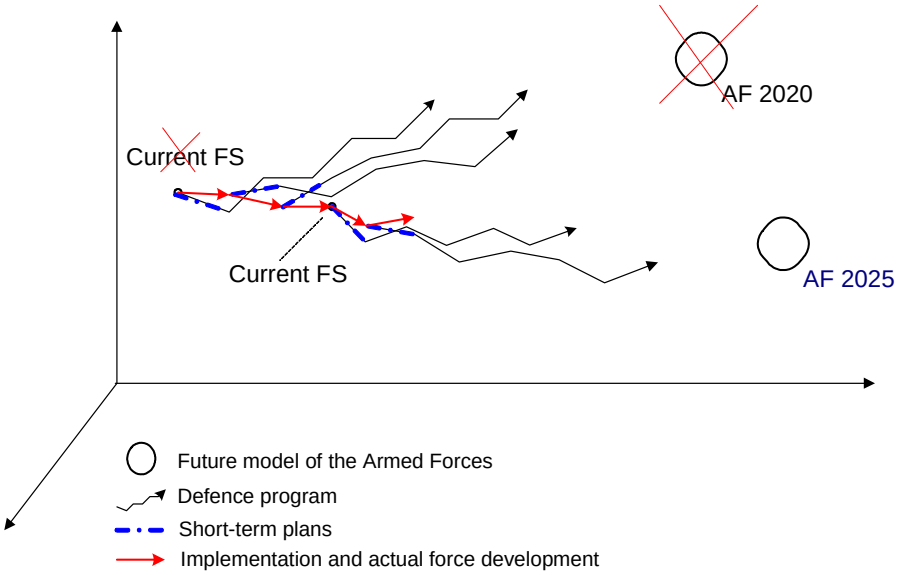

Figure 3: Changing the 'Future Force Structure' as Force Development Target.

Alternative Approaches to Long-term Defence Planning

Two of the most authoritative sources on defence planning present similar categorisations of defence planning approaches. In the 2004 edition of *Strategy and Force Planning*, Bartlett, Holman, and Somes outline nine alternative approaches.[14]

In the *top-down* approach, interests, objectives and strategy drive the decisions on force structure.

In the *bottom-up* approach, the focus is on improvement of existing defence capabilities and related weapon systems – improvement aimed above all at meeting the requirements of current operations and operational plans.

In the *scenario* approach, planners elaborate a representative set of situations, each describing the conditions for employment of the armed forces. Scenarios are then used to derive tasks to be performed in meeting mission objectives and the respective capability requirements.

In two closely interrelated and complementary approaches, based respectively on *threats and vulnerabilities* assessment, planners seek the means to deal with the problem when both a threat and vulnerability against this threat are identified. Capability requirements are then defined in comparison to the capabilities of the prospective opponent.

One of the approaches—*core competencies and missions*—has a functional basis. In this approach the capability requirements for own and friendly forces are defined irrespective of scenarios, threats, or perceived vulnerabilities. Instead, they are defined as core competencies, e.g., to achieve air superiority in any plausible situation. Then these core competencies are cascaded down to mission capabilities requirements and subsets of requirements in peace, contingency, and war.

The *capability-based* approach also involves functional analysis. Functions and tasks to be performed in expected future operations are translated into capability requirements. Then planners seek force units that would provide these capabilities effectively and efficiently.

Through *hedging*, planners seek to minimise risk preparing the military forces for any conceivable tasking in the current situation as well as thirty or more years into the future. The derived requirements provide for balance and flexibility across a broad spectrum of challenges but, not surprisingly, the associated cost is extremely high. The closest historical example is the policy of the Soviet Union in the 1970s and 1980s that contributed to its collapse.

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[14] Henry C. Bartlett, G. Paul Holman, Jr., and Timothy E. Somes, "The Art of Strategy and Force Planning," in *Strategy and Force Planning*, 4th ed. (Newport, R.I.: Naval War College Press, 2004), 17-33.

In the next approach, planners seek to obtain operational and strategic superiority through *technology*. The approach is grounded in the belief that knowledge, creativity and innovation will provide superior systems and, respectively, significant military leverage.

Finally, in the *fiscal* approach to defence planning budget constraints drive the decisions on force structure.

The second authoritative source—the *Handbook on Long Term Defence Planning*, published by the NATO Research and Technology Organisation—presents a somewhat different list of possible approaches to defence planning in a threefold structure according to the focus of analysis.

When the focus is on the planning process, analysts distinguish between top-down and resource-constrained planning.

Depending on the degree of technology optimism or, on the contrary, preferences to adhere to historically proven facts, experienced planners outline four possible approaches:

- Technology optimism
- Risk avoidance
- Incremental planning
- Historical extension.

The last three of these approaches build on proven concepts, existing force structures and capabilities and seek incremental increases of effectiveness and efficiency. Under certain conditions they may be interpreted as variations of the bottom-up approach listed above.

Three additional approaches are distinguished when the focus is on functions or concrete scenarios as the driver for measuring potential performance of future forces. These approaches are capability-based planning, scenario-based planning and threat-based planning. Each of these approaches has advantages and associated pitfalls and is rarely applied in a pure form. In practice, a defence planning approach may combine features of two or more of the main alternatives.

According to the *Handbook on Long-term Defence Planning*, two approaches currently prevail throughout mature defence planning communities. They are resource consciousness (a milder form of resource-constrained planning) and scenario-based planning.[15] The main efforts since the publication of the Handbook in 2003 aim at enhancing the capability orientation of defence planning and incorporating novel opera-

[15] *Handbook on Long Term Defence Planning*, RTO Technical Report 69 (Paris: NATO Research and Technology Organization, April 2003), 4, www.rta.nato.int/pubs/rdp.asp?RDP=RTO-TR-069.

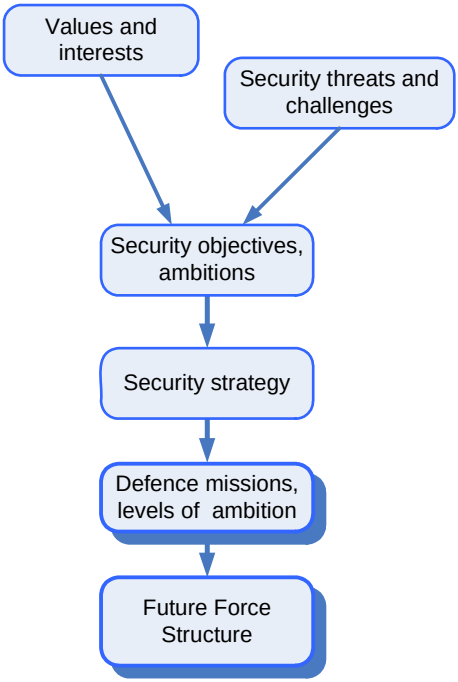

Figure 4: Definition of Defence Objectives.

tional concepts, in particular the effects-based approach to operations. It also aims to increase the flexibility and the responsiveness of strategy making and planning mechanisms to changes in the security environment.

Linking Policy Objectives to Force Structure

In top-down approaches, the elaboration of defence policy flows from the desire to uphold and promote the values and interests of a nation or an alliance, the underlying security strategy and the role of the military among the instruments of national power, all of which impact the definition of defence objectives (as shown in Figure 4). Defence objectives, in turn, are often expressed as defence missions, or possible roles of the armed forces and levels of ambition in defence.

Analysis of the Security Environment

Security objectives, strategies and defence objectives stem from values, interests, security challenges, risks and threats, identified through thorough analysis of the security environment. Current analysis emphasises threats posed by:

- international terrorism
- the proliferation of weapons of mass destruction and means for their delivery
- failed or failing states
- organised crime,

as well as variety of combinations among them.

Other risks originate from ethnic tensions and failure to respect differing ethnic, religious and cultural values, intolerance and xenophobia, demographic pressures, and environmental degradation.

Countries in transition see the lack of accountability of armed forces (and other security sector organisations) to civil society, inefficiency of defence, the preservation of large ineffective force structures and lack of management ability to deal with a variety of legacy issues as particularly challenging. For example, the countries from South Eastern Europe (SEE) in a 'common assessment paper' identified as a particular challenge the "failure of [defence] reform and disruptions in [Euroatlantic] integration processes [that] could result in negative consequences on regional and international security."[16]

Particularly important—as a result of the analysis of the security environment—is to state explicitly and clearly the absence of risks and threats, especially such that have had a strong impact on defence policies until recently. In the example of the South Eastern European assessment, the countries agreed that "there is no perceived risk of military aggression between states in SEE in the current and foreseeable political environment."[17]

Security Objectives

The objectives of the security policy of a country address current and foreseeable security challenges, risks and threats and reflect the values and interests of the nation, as well as its ambitions in the international security arena.

For example, the aim of the 2002 National Security Strategy of the United States is "to help make the world not just safer but better." To that effect, it sets forth the following goals or 'security objectives':

- Political and economic freedom
- Peaceful relations with other states

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[16] *South East Europe Common Assessment Paper on Regional Security Challenges and Opportunities – SEECAP* (Budapest, May 2001), para 16 g, http://www.forost.ungarisches-institut.de/pdf/20010530-1.pdf.

[17] Ibid., para 15.

- Respect for human dignity.[18]

In addition, the National Defence Strategy of the U.S. provides the following definitions of four 'strategic objectives' in terms of security and defence, all in line with the U.S. National Security Strategy:

- Secure the United States from direct attack
- Secure strategic access and retain global freedom of action
- Strengthen alliances and partnerships
- Establish favourable security conditions.[19]

Security Strategy

A good security strategy provides a clear, realistic and effective concept of the use of diplomatic, economic, military and other instruments of power in order to achieve security objectives. Depending on assessments of security risks and threats, traditional strengths, assessment of own and opponents' vulnerabilities and identified opportunities, the security strategy may envision various roles of the armed forces among the instruments of power. These roles are often referred to as 'missions' of the armed forces.

Defence Missions and Goals

Bulgaria's 2002 White Paper on Defence defines the following missions of the armed forces:

- Contribution to the national security in peace
- Contribution to the peace and security in the world
- Participation in the defence of the country.[20]

The U.K. defines its 'defence aims' in the following manner:

> Deliver security for the people of the United Kingdom and the Overseas Territories by defending them, including against terrorism; and to act as a force for good by strengthening international peace and stability.[21]

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[18] *The National Security Strategy of the United States of America* (Washington, D.C.: The White House, September 2002), 1, http://merln.ndu.edu/whitepapers/USnss2002.pdf.

[19] *The National Defense Strategy of the United States of America* (Washington, D.C.: Department of Defense, March 2005), iv, details on pp. 6-7, www.globalsecurity.org/military/library/policy/dod/nds-usa_mar2005.htm.

[20] *White Paper on Defence* (Sofia: Ministry of Defence, 2002), 27, http://merln.ndu.edu/whitepapers/BulgariaEnglish.pdf. This document was adopted prior to NATO's invitation to Bulgaria to join the Alliance at the Prague 2002 Summit.

[21] www.hm-treasury.gov.uk/d/sr04_psa_ch9.pdf

In the U.S. example used earlier, the military is tasked to contribute to the accomplishment of the security objectives in four main ways (the title of the respective section of the U.S. national defense strategy underlines the role of defence as an instrument in the implementation of security policy; these may be interpreted as 'defence objectives'):

- Assure allies and friends
- Dissuade potential adversaries
- Deter aggression and counter coercion
- Defeat adversaries.[22]

Defence Ambitions

Through defence ambitions, policy makers and planners make the defence objectives more tangible and measurable. The ambitions provide a realistic and specific formulation of the expectations of the government regarding the roles of the armed forces, the operations they should be able to conduct on their own, with other militaries or with other security sector organisations, the quality of personnel, the technological level of the armed forces and the role of defence industry, etc.[23]

In regard to operations, for example, the 'level of ambition' establishes in military terms the number, scale and nature of operations that a country or an alliance should be able to conduct.[24] A related term is 'operational tempo.' It refers to the number and size of missions undertaken by a military force relative to its strength and takes into account the complexity and the length of these operations. A high operational tempo indicates a significant number of sizeable, ongoing deployments to multiple theatres.[25]

NATO's stated level of ambition for instance was to be able to conduct three simultaneous major joint operations out of the territory of the alliance.[26] In the 2006 Ministerial Guidance, NATO set a new level of ambition – to be "able to conduct a

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[22] *The National Defense Strategy of the United States of America*, iv, details on pp.7-9.

[23] For an elaborate open source example the reader may refer to Todor Tagarev and Valeri Ratchev, *Bulgarian Defence Policy and Force Development 2018* (Sofia: Military Publishing House, 2008).

[24] *The Defence Planning Process* [of NATO], www.nato.int/issues/dpp/index.html.

[25] *A Role of Pride and Influence in the World: Defence*, Canada's International Policy Statement (Minister of National Defence, 2005), 7.

[26] See for example Michèle A. Flournoy, CSIS, "Defense Integration in Europe: Enhancing Europe's Defense Capabilities for New Missions" (paper presented to the Clingendael Security and Conflict Programme workshop "*Enhancing European Military Capabilities within the EU and NATO*," The Hague, December 14-15, 2005), notes to slide #17, www.clingendael.nl/cscp/events/20051214/Flournoy.ppt.

greater number of smaller-scale operations … than in the past" while retaining "its ability to carry out larger operations."[27]

By 2010, the member states of the European Union (EU) have committed to be able "to respond with rapid and decisive action applying a fully coherent approach to the *whole spectrum of crisis management operations* covered by the Treaty on European Union. This includes *humanitarian and rescue tasks*, *peace-keeping* tasks, *tasks of combat forces in crisis management*, including *peacemaking*. As indicated by the European Security Strategy this might also include *joint disarmament operations*, the support for third countries in *combating terrorism* and security sector reform."[28]

Likewise, the 'level of ambition' of a country is defined in military terms as the number, scale and nature of operations that it should be able to conduct on its own or as part of coalition or alliance.

The U.K., in its current Defence White Paper, defines the following ambition levels:

- Support three concurrent operations, one of which is an enduring peace support operation
- Conduct limited national operations
- Be the lead, or framework nation for coalition operations, at Small to Medium scale
- Retain the capacity to undertake Large Scale operations at longer notice in Europe, the Mediterranean and the Gulf Region.[29]

The second and the third of these ambitions lead to the requirement to maintain a broad spectrum of maritime, land, air, logistics, C4ISR and special forces capability elements.

France, in its Programme Law 2003-2008, also very clearly defines its defence ambitions, stating that the country:

- must protect autonomy of decision and action …, including the ability to act alone should it be necessary (e.g., to ensure defence of sovereign territories and … to meet her defence agreements in Africa and the Middle East);

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[27] "NATO Sets New Level of Ambition for Operations," *NATO Update* (8 June 2008), www.nato.int/docu/update/2006/06-june/e0608b.htm.

[28] *Headline Goal 2010*, approved by General Affairs and External Relations Council on 17 May 2004, endorsed by the European Council of 17 and 18 June 2004, http://ue.eu.int/uedocs/cmsUpload/2010%20Headline%20Goal.pdf, emphasis added.

[29] *Delivering Security in a Changing World*, Defence White Paper, volume I (London: Presented to Parliament by the Secretary of State for Defence, December 2004), www.mod.uk/NR/rdonlyres/147C7A19-8554-4DAE-9F88-6FBAD2D973F9/0/cm6269_future_capabilities.pdf.

- have the capability of a lead nation in a European operation and sufficient military capabilities to contribute to a spectrum of military actions, especially in high intensity operations; and
- must maintain the "necessary technological know-how to ensure, through time, the credibility of nuclear deterrence, to develop the resources of protection against new threats, and to preserve an industrial base …" to manufacture major defence systems.[30]

The French Programme Law also states that in order to meet this level of ambition France will increase personnel levels and defence spending. The Programme provides considerable detail on the structure of the budget and the objectives that will be achieved in attracting active and reserve personnel, the status of the military and force modernisation.

Canada recognises that, internationally, its forces will conduct operations in the whole spectrum of conflict but will normally be part of a coalition or alliance. The Canadian Forces lack the capability to achieve international goals by themselves; hence, they could not conduct or even take the lead role in operations on the scale of the Kosovo campaign in 1999. Canada's ambition is to provide "tactically self-sufficient units" (TSSU), capable of integrating into Combined Force packages. The minimum requirement of TSSUs is to be able to conduct at least "medium intensity operations."[31]

The ambition of Sweden, internationally, is to be able "*to lead* and participate in *two large-scale* international missions, each requiring the deployment of an entire battalion, and *three smaller operations*. It shall be possible to undertake some operations with *little prior warning* and to *sustain* other operations *over a longer period* of time. The Swedish Armed Forces shall be able to successfully tackle *any crisis management task* given to them, from confidence-building, conflict prevention, humanitarian and peace-keeping tasks to peace-enforcement measures."[32]

In its 1999 Military Doctrine, Bulgaria clearly stated the defence ambition of the country. At that time Bulgaria had announced its intentions and plans to seek NATO integration but membership was not near. In the absence of NATO's Article 5 guarantees and the nearby Kosovo crisis still in its hottest phase, policy makers admitted the

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[30] *2003-2008 Military Programme*, *Bill of Law*, France, Unofficial translation (2002), 4-5, www.info-france-usa.org/atoz/mindefa.pdf.

[31] *Capability Based Planning for the Department of National Defence and the Canadian Forces* (Canada: Department of National Defence, May 2002), 14-15, www.vcds.forces.gc.ca/dgsp/00native/rep-pub/j-cbpManualPdf_e.asp.

[32] *Our Future Defence: The Focus of Swedish Defence Policy 2005–2007*, Swedish Government Bill 2004/05:5, 14, emphasis added, www.sweden.gov.se/content/1/c6/03/21/19/224a4b3c.pdf.

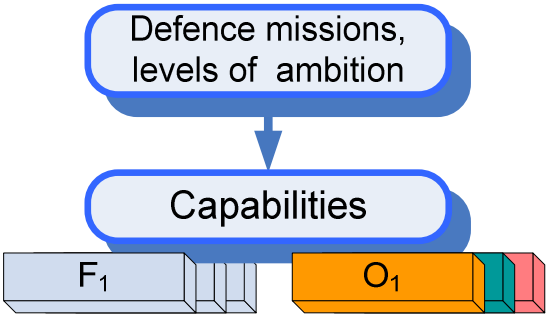

Figure 5: Capabilities as 'Means' in Defence Policy.

possibility for aggression against the country. The stated ambition was to be able to defend the territory and the population on its own. Importantly, the Military Doctrine—a public document approved by the Parliament—announced the parameters of the plausible aggression in one theatre of operations, given significant warning times and without full mobilisation of the aggressor.[33]

From Defence Objectives to Capabilities

In the end, it is not the forces as such that are important but the capabilities they have, or will have, in relation to defence objectives (see Figure 5). Furthermore, although most of the capabilities are provided by formations of the armed forces (marked in Figure 5 with 'F'), there are cases when requisite capabilities are provided by other organisations, e.g., non-military intelligence services, police, shipping companies, civilian air transport, etc.

Capability here is defined as:

> Capacity, provided by a set of resources and abilities, to achieve a measurable result in performing a task under specified conditions and to specific performance standards.[34]

Therefore, the link between objectives and capabilities is not straightforward. The definition of capabilities necessary to achieve the objectives depends on the situations, or scenarios, in which the armed forces might be used, and accounts for the way in which they will be used (see Figure 6).

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[33] *Military Doctrine of the Republic of Bulgaria*, Approved by the National Assembly in 1999, amended in 2002, www.mod.bg/en/doc_konc.html#.

[34] For alternative definitions see *Defence Capability Development Manual* (Canberra: Defence Publishing Service, Department of Defence, 2006), 4, www.defence.gov.au/publications/dcdm.pdf.

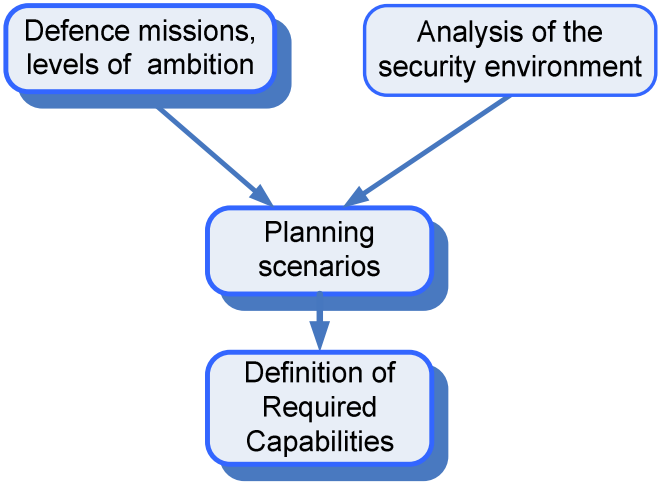

Figure 6: Linking Objectives and Capability Requirements through Planning Scenarios.

Planning Scenarios

In defence policy making and planning, scenarios are used as planning situations, specified in terms of environmental and operational parameters. Planning scenarios are not intended to predict future situations and outcomes; rather, they are used in a process of specifying force structure and defence plans. They serve several purposes:

First, scenarios broadly describe potential missions, based on challenges or threats faced in a 10-20 year time frame, comparable with the time necessary to reshape force structures, develop and field corresponding weapon systems. Secondly, scenarios lay out assumptions, related to the scope of aims and ambitions vis-à-vis challenges and threats. Third, they are used by planners as a tool to define capabilities to conduct operations and serve as a testbed for assessing proposed operational concepts, capability or system requirements against formulated mission objectives.[35]

Policy makers and planners need to consider multiple scenarios in order to address the complex nature of military missions and to select a set of scenarios. The set should be representative of the security challenges outlined in the defence policy. The selected scenarios, in combination, need to capture the full spectrum of missions, opera-

[35] For details see *European Defence: A Proposal for a White Paper*, Report of an independent Task Force (Paris: EU Institute for Security Studies, May 2004), 67-70, www.iss.europa.eu/uploads/media/wp2004.pdf, and *Handbook on Long Term Defence Planning*.

tions, and the range of objectives and interests. Finally, all selected scenarios must be credible so that the resulting analysis and plans would be acceptable.[36]

In its defence policy and planning process, NATO develops some 30 generic defence planning scenarios, ranging from an operation for non-combatant evacuation to forcible entry to major war, which are then used to inventory required capabilities.[37]

In the proposal for a White Paper on European defence, an independent Task Force proposes the following five strategic scenarios:

1. A large-scale peace support operation
2. A high-intensity humanitarian operation
3. Regional warfare in the defence of strategic European interests
4. Prevention of an attack involving weapons of mass destruction (WMD)
5. Homeland defence.[38]

To take a national example, Canada has used the following set of generic scenarios:

1. Search and rescue in Canada
2. Disaster relief in Canada
3. International humanitarian assistance
4. Surveillance/control of Canadian territory and approaches
5. Evacuation of Canadians overseas
6. Peace support operations (Peacekeeping)
7. Aid of the civil power/assistance to law enforcement agencies
   7. a. Chemical weapon variant
8. National sovereignty/interests enforcement
9. Peace support operations (peace enforcement)
   9. a. Failed state variant
10. Defence of North America
    10. a. Radiological weapon variant
    10. b. Cyber attack variant

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[36] Scenario selection is a critical activity. The need for detail and broad spectrum of planning scenarios inevitably comes into strains with limited analytical ability of policy makers and planners.

[37] Flournoy, "Defense Integration in Europe: Enhancing Europe's Defense Capabilities for New Missions."

[38] *European Defence: A Proposal for a White Paper*, 71-98.

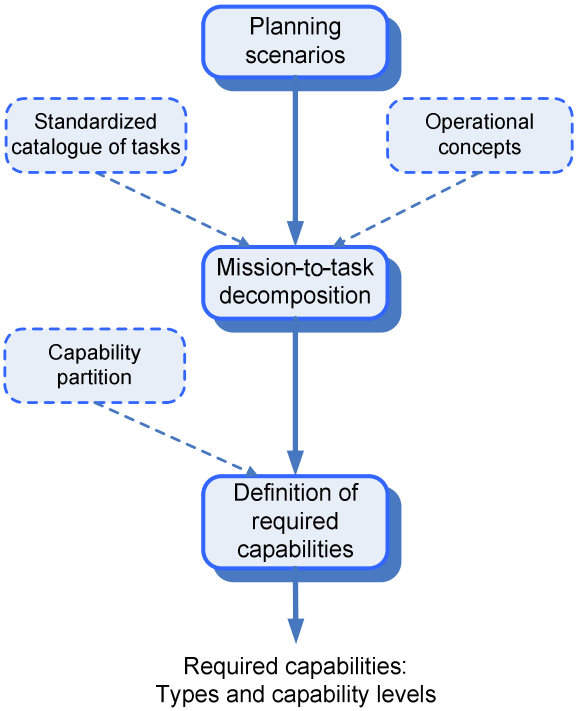

Figure 7: Mapping Capabilities to Tasks.

11. Collective defence.[39]

In summary, scenarios are used to describe operational considerations and to rationalise capability requirements.

Recently, in attempts to deal more effectively and efficiently with uncertainty and an unpredictable security and technological environment, defence planning communities turned to more elaborate planning schemes using two levels of scenarios – one, describing the situations in which the armed forces would be used (scenarios of the types listed above) and another, that describes possible contexts for shaping defence policies, or 'alternative futures.'[40]

[39] *Descriptions – Departmental Force Planning Scenarios* (Canada: Department of National Defence, May 2005), www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/scen/intro_e.asp.

[40] For online examples see Brian Nichiporuk, *Alternative Futures and Army Force Planning* (Santa Monica, CA: RAND Arroyo Center, 2005), http://www.rand.org/pubs/monographs/2005/RAND_MG219.pdf; and Valeri Ratchev, "Context Scenarios in Long-term Defense

Missions to Tasks to Required Capabilities

Capability is broadly defined as the ability to perform a particular task. Therefore, planning scenarios are used to derive the set of tasks to be performed in operations. In order to be uniformly understood, each task to be performed in a scenario is defined by the respective term in a generic task list, or catalogue of tasks (which is visualised in Figure 7).

For example, Canadian defence policy makers and planners use, among other documents, the "Canadian Joint Task List" as a "common lexicon … for capability planning."[41] On the example of the U.S. force planning system, the set of tasks that results from analysing the scenario set for each mission is referred to as "Mission Essential Task List."

Actually, the tasks could not be defined outside of an explicit concept for employment of the armed forces, or 'Operational Concept.' Considerable importance in current transformation initiatives is attributed to the 'Effects-Based Approach to Operations' as a driving operational concept. In this approach, capabilities are mapped to desired effects and to operational objectives.

Mission essential task lists define the types of capabilities needed to accomplish the tasks (or to achieve desired effects). Another methodological instrument, referred to as 'capability partition,' provides a common thesaurus for all defence planners and is used in addition in a number of defence management activities (see Figure 7). Finally, planners define capability levels needed to accomplish the tasks (or 'capability goals').

Structuring the Force

For each scenario, planners design several alternative force proposals that would provide capabilities to apply the operational concept and to achieve mission objectives, and assess the cost efficiency of each alternative.

In mature planning systems, planners maintain a library of generic units, or modules, and a common set of cost factors (Figure 8). The use of such methodological tools enhances considerably the efficiency of the planning process. Key for the generation of force proposals is the integrating concept. Among the examples of integrating concepts are the European Union *Battle Group*, the Canadian *Tactically Self-Sufficient Unit*, *Brigade* or *Battalion tactical group*, *Mission Capabilities Package*, etc. The

Planning," *Information & Security: An International Journal* 23, no. 1 (2008): 62-72, http://infosec.procon.bg/v23/Ratchev.pdf.

41 *Capability Based Planning for the Department of National Defence and the Canadian Forces*, 19.

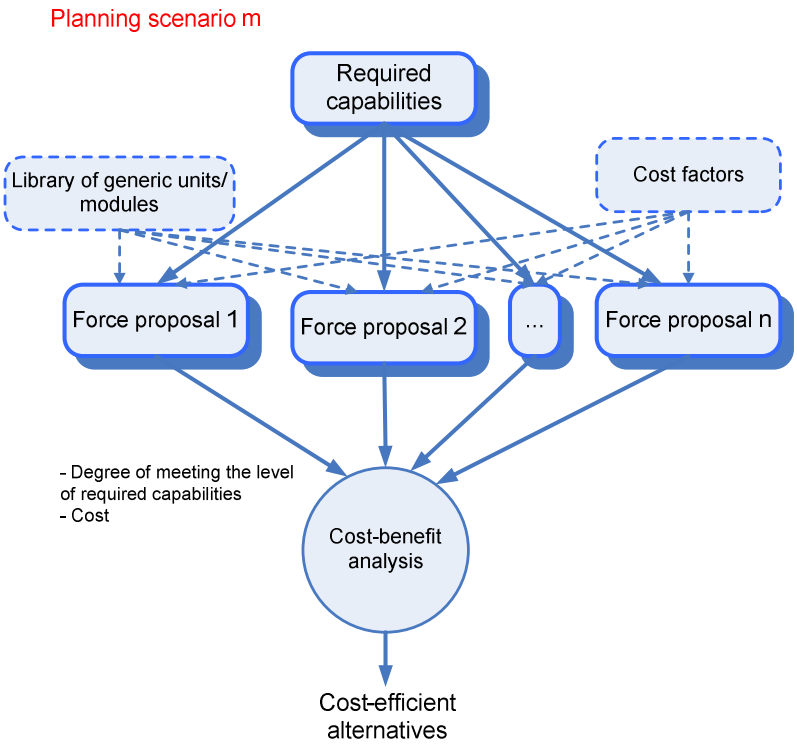

Figure 8: Generation and Assessment of Alternative Force Proposals.

type of integrating concept defence planners of a country or alliance use depends on the respective level of defence ambitions.

Accounting for the hypotheses of simultaneous or near simultaneous realisation of two or more planning scenarios and for the need to provide rotation of the units in operations, planners then aggregate cost-efficient force packages, designed for individual scenarios, into one force structure.

In advanced planning systems, planners rigorously assess and account for the multi-functionality of some of the units and the synergistic effects among various capabilities. Thus, planners do not attempt to optimise the set of capabilities (capability levels or related force packages) for a particular scenario; rather, the capability set should be robust against the set of plausible scenarios.

Reconciling Objectives, Force Structure and Financial Constraints

The rule in defence policy making and planning is that demands always exceed resource availability. Therefore, policy makers and planners work hard to balance goals, strategy and means, with risk being the balancing factor.

In a rational model of strategic development, planners are expected to treat security and defence objectives, strategy, means and planning risk as variables until a good balance is found.[42] Obviously, the search for a balanced policy is sought in the current and anticipated security environment and within resource constraints (Figure 9).

Hence, a realistic defence policy is based on the recognition that it is not possible to guarantee the security against all possible threats. Instead, it is based on a risk management approach. Policy makers and planners distinguish four related types of risks:

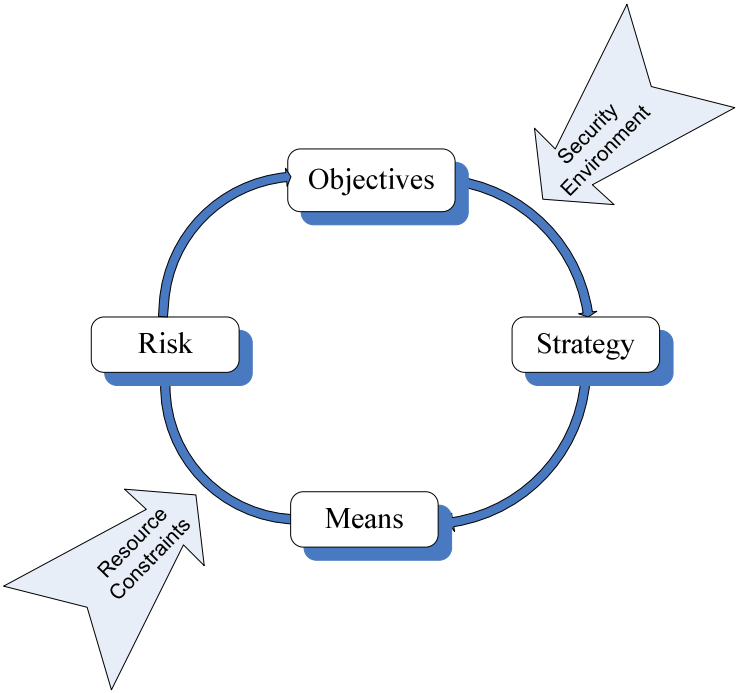

Figure 9: Bartlett Model of Strategic Development.

[42] Known as Bartlett model and described in Bartlett, Holman, and Somes, "The Art of Strategy and Force Planning," 18-23.

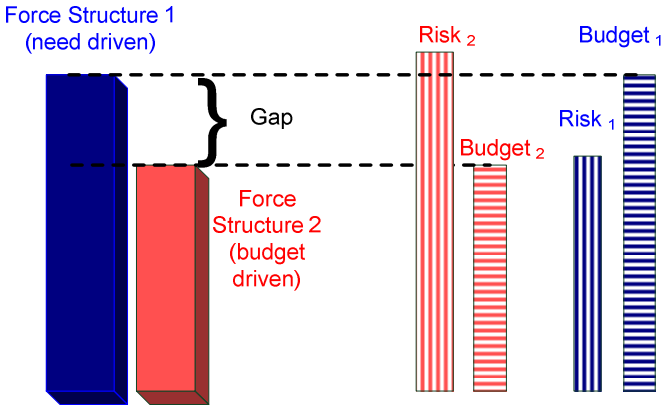

Figure 10: Force Structures, Risk and Budget Levels.

Operational risks: associated with the current force structure that, if tasked, will execute the strategy successfully within acceptable human, material, financial, and strategic costs.

- Defence planning, or future challenges risks: associated with future capacity to execute missions successfully against a spectrum of prospective future challenges.
- Implementation, or force management risks: associated with the successful implementation of force structure decisions and force development plans. The primary concern here is recruiting, training and retaining military and civilian personnel, equipping the force and sustaining an adequate level of readiness.
- Institutional risks: associated with the capacity of new command, management and business practices.[43]

The second category of risk is of primary importance in making long-term defence planning decisions. Defence planning risk is measured through the impact, or consequence, of an unfavourable outcome, given some military event or other event of organised violence and force structure. Thus, the measure of risk is probabilistic. It is defined by the likelihood of an event occurring and the estimated consequences in case the event has occurred and we have a given force structure, or capabilities, in place.

[43] *The National Defense Strategy of the United States of America*, 11. The US defence strategy defines (1) operational, (2) future challenges, (3) force management and (4) institutional risks.

Each force structure is associated with a certain level of risks. Figure 10 presents visually the difference between two force structures under examination. Force Structure $_1$ is associated with Risk $_1$ and could be built and sustained if Budget $_1$ is made available. When Force Structure $_1$ is defined as 'needed,' defence planners, often implicitly, assume that the associated Risk $_1$ is acceptable. When planners have to find a force structure that is 'realistic,' i.e., that could be built and sustained within expected budgets (Budget $_2$ level in Figure 10), they create plans for a force structure associated with Risk $_2$.

In practice, the mismatch between needs, i.e., required defence capabilities and resource constraints, is inevitable. It creates a gap of unfunded capabilities. What can be done regarding that gap? Dr. Jack Treddenick, Professor at the College of International Security Studies at the George C. Marshall Center in Germany, lists a number of possibilities:

- Pretend the gap does not exist
- Revisit national security and/or military strategy
- Revisit required force structure
- Reconsider the allocation of resources to defence
- Seek improvements in efficiency
- Transform the armed forces.[44]

Thus, one option is to seek a better force structure within Budget $_2$—different set of capabilities, more efficient use of resources—so as to lower the associated Risk $_2$. That is not always possible. Another option is to reconsider the ways in which armed forces operate. A third option is to reassess security strategies – seek entry into an alliance, enhance security cooperation, apply confidence building measures with neighbours, etc. A fourth option is to provide more money on defence, which would make it possible to increase the size and/or the readiness of the armed forces. Fifth, we may decide to reconsider security objectives and ambition levels. Finally, if all other opportunities are exhausted, we may have to accept the level of risk associated with the planned force structure.

A proposal for a force structure may be accepted if it is affordable and the associated planning risk is acceptable, i.e., the likelihood of occurrence of an event is determined to be low or the likely consequences, given such an occurrence, are judged to be minor.

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[44] Jack Treddenick, "Transparency and Efficiency in Defence Planning and Spending" (paper presented at the PfP Consortium Security Sector Reform Conference, Garmisch-Partenkirchen, George C. Marshall Center, 13 December 2005).

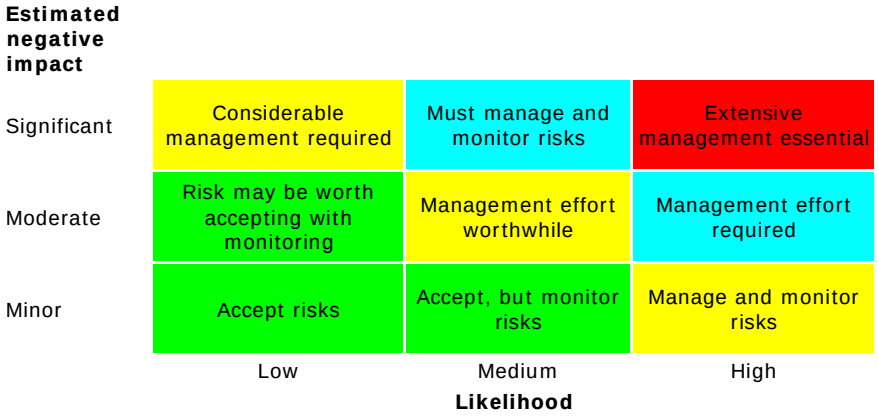

Figure 11: A Basic Risk Management Model.

Analysis of experience, simulations and expert judgement are used to assess risk. Whatever the approach, at the end acceptance (or non-acceptance) of a planning risk strongly depends on the personality of the decision maker. Some people are risk averse, while others are more wiling to accept risk (or are 'risk prone'). Thus, even in a rational decision-making framework any risk management strategy is inherently subjective.

On the whole, risk assessment should be integrated in the decision-making process and the setting of priorities among competing demands. A self-explanatory risk management model is presented in Figure 11.[45] Risk assessments, among other things, may be used to assign risk management responsibilities along organisational hierarchies.

Defining the Main Transition Steps

Once planners define a future force structure that is adequate to future strategic circumstances, acceptable and affordable, they compare current and future capabilities, identify gaps and surpluses and define milestones in the transition to the future force structure. Among such milestones might be:

- termination of the conscript service;
- the formation or closing down of a unit;

[45] Adapted from *Integrated Strategic Risk Management (ISRM) in Defence* (Canada: Department of National Defence, 2003), www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/cosstrat/isrm/intro_e.asp.

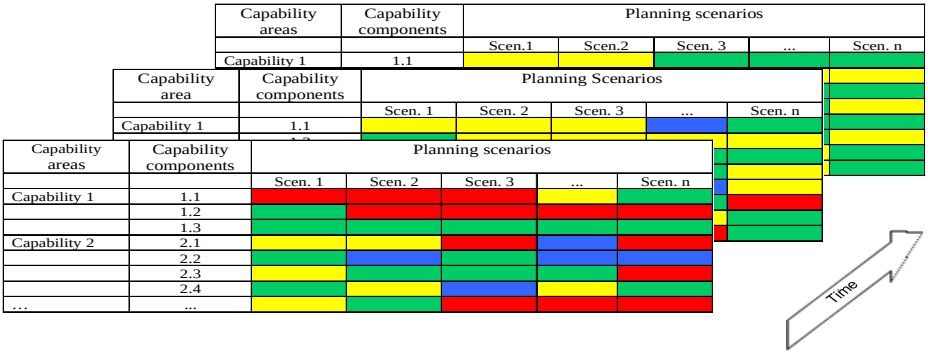

Figure 12: Evolving Capabilities and Risks in the Transition to the Future Force Structure.

- contribution of a unit to an operation or a standing force, e.g., the NATO Response Force or the European Rapid Reaction Force; and/or
- introduction of a new weapon platform and/or achievement of its full operational capability, etc.

The transition itself needs to be affordable and based on a transition strategy or, at a minimum, prioritisation among competing demands – participation in operations or development of new capabilities, technological modernisation or investment in people, etc.

It is also recommended to assess planning risks at transition milestones and assist decision making with suitable visual aids. Different colours are used to denote 'sufficient capability,' 'surplus,' 'minor deficiency,' and 'major deficiency' (as illustrated in Figure 12).[46]

Conclusion

In a brief introduction to defence planning like this one, it is not possible to provide detailed treatment of the subject or to address all issues of importance. Two additional issues are of particular importance to practitioners in defence policy making and planning.

The first issue is the context for the planning process. For a defence establishment, defence planning is a comprehensive process that encompasses all required capabilities—weapon systems and C2 included—and the respective resources, as well as the

[46] *Guide to Capability-Based Planning*, TR-JSA-TP3-2-2004 (The Technical Cooperation Program, Joint Systems and Analysis Group, Technical Panel 3, MORS Workshop, October 2004), www.mors.org/meetings/cbp/read/TP-3_CBP.pdf.

capabilities provided by organisations other than the armed forces. Nevertheless, it is not conducted in a void.

Three contexts may have an immense impact on the national defence planning process and decisions – international, security sector and budgetary. In a way, the national defence planning may be immersed in the respective processes of allied defence planning (e.g., the defence planning in NATO and the European Union), the definition of roles and distribution of capabilities among the organisations in the national security sector and the process of drafting, debating and deciding on the state budget.[47]

Second, and related to allied and security sector planning, is the issue of specialisation. In the current security environment many countries cannot cope with the challenge to preserve a balanced yet efficient force structure.[48] Attempts to preserve a balanced force structure while downsizing lead to exponential growth of unit costs. On the other hand, specialisation in niche capabilities may provide high-value contributions to collective security. Decisions on capability specialisation in the national security sector also may provide economies of scale.

Decisions of specialisation account for existing strengths, traditions, technological and defence industrial ambitions, and inevitably lead to a specific portfolio of defence capabilities.

In sum, there is no algorithm for the application of scenario-based capability- oriented defence planning. Nevertheless, effective defence policies are based on disciplined approaches to the creation of force structure and force development plans that share some common steps:

- Definition of defence objectives, missions, and ambitions
- Design of and agreement on plausible scenarios, or environments in which these missions will be carried out (often including development of adequate operational concepts and selection of 'course of action')
- Decomposition of scenario activities into tasks and definition of 'mission essential task lists' (tasks are often drawn from generic task lists)
- Definition of the capabilities needed to accomplish the tasks. This step includes a number of sub-steps, the latter two performed in iteration:

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47 Todor Tagarev, "Capabilities-Based Planning for Security Sector Transformation," Lecture to NATO Advanced Studies Institute (Bansko, Bulgaria, 10-18 April 2007); under publication in vol. 24 of *Information & Security: An International Journal*, http://infosec.procon.bg.

48 See, for example, *European Defence Integration: Bridging the Gap between Strategy and Capabilities*, Conference Report (Brussels: Center for Strategic and International Studies in cooperation with the New Defence Agenda, October 2005); Ugurhan G. Berkok, "Specialization in Defence Forces," *Defence and Peace Economics* 16, no. 3 (June 2005): 191-204.

  - Definition of the needed types of capabilities
  - Assessment of planning risks
  - Design of a cost-effective force package that would provide capability levels needed to accomplish the tasks with acceptable risk
- Design of a force structure appropriate for all anticipated missions and scenarios.

All these steps may be performed in a variety of ways. What is important is to adhere to a rational, disciplined approach to defence planning and the principles of transparency and accountability. The examples from the experience of democratic societies with mature defence policymaking and planning mechanisms, presented in this chapter, may help countries that endeavour to manage effectively and efficiently the development of their armed forces.

Key Further Readings

Henry C. Bartlett, G. Paul Holman, Jr., and Timothy E. Somes, "The Art of Strategy and Force Planning," in *Strategy and Force Planning*, 4th edition (Newport, R.I.: Naval War College Press, 2004), 17-33.

Handbook on Long Term Defence Planning, RTO Technical Report 69 (Paris: NATO Research and Technology Organization, April 2003), www.rta.nato.int/pubs/rdp.asp?RDP=RTO-TR-069.

Guide to Capability-Based Planning, TR-JSA-TP3-2-2004 (The Technical Cooperation Program, Joint Systems and Analysis Group, Technical Panel 3, MORS Workshop, October 2004), www.mors.org/meetings/cbp/read/TP-3_CBP.pdf.

Todor Tagarev, "The Art of Shaping Defense Policy: Scope, Components, Relationships (but no Algorithms)," *Connections: The Quarterly Journal* 5, no. 1 (Spring-Summer 2006): 15-34, https://consortium.pims.org/the-art-of-shaping-defense-policy-scope-components-relationships-but-no-algorithms.

Chapter 3

Introduction to Programme-based Force Development

Todor Tagarev

Introduction

The long-term defence planning process, as described in Chapter 2, serves to define defence requirements expressed in capability terms, the level of capabilities that can be realistically achieved and the main parameters of the respective force structure. It serves also to elaborate a strategy of transition to the future force structure. This strategy delineates priorities and describes the general approach towards the achievement of future capabilities.

For a variety of reasons the decisions made in the long-term planning process cannot be directly translated into short-term resource allocation decisions such as decisions on defence budgets, annual recruitment targets, annual or bi-annual procurement plans, training and readiness levels, etc.

One of the main reasons is that the horizon in long-term planning is usually 10-15 years and, while the respective decisions are resource-informed,[1] they are not necessarily resource constrained, while short-term plans should be meticulously costed and constrained by the expected defence budgets. Another reason is that changes in the force development environment may occur in between the long-term defence planning and the work on the respective short-term plans. Among such

[1] That is, the future force structure is generally perceived as realistic and affordable.

changes might be differences between foreseen and actual operational engagements, delays in the procurement of a certain weapon system, variations between anticipated earlier and current projections of personnel costs, inflation rates, costs of fuel, procurement costs, etc. A third reason that deserves noting in this introductory text stems from the fact that force development decisions are made as a result of a number of distinct institutional processes and, sometimes, by different decision-making bodies. For example, the results of long-term defence planning may be approved by the Government once every three to five years, while the Parliament decides annually on the budget allocated to defence and may have to accommodate for previously unforeseen requirements.[2] In addition, while long-term defence planning is capability-oriented, separate short-term defence plans usually address the use of certain type of resources—money, materiel, facilities, etc.—and, respectively, the development of one or another component of the defence capabilities. Therefore, practically all defence establishments use some sort of 'mechanism' to coordinate the development of all capability components and to relate the utilisation of defence resources to defence policy objectives and long-term plans.

There are two distinct approaches towards the coordination of the short-term defence plans and their direction towards the achievement of defence policy objectives. In the first one, defence resource managers, often designated as budget holders, coordinate horizontally their planning, as well as key activities in the implementation of the plans with individuals in the defence administration with capability development responsibilities. In the U.K. defence establishment the latter are designated as 'capability managers.' Defence programmes and the programming process form the core of the second distinct approach. Defence programmes are used to relate short-term plans to policy objectives and, at the same time, to provide for coordinated development of all capability components.

This chapter examines key issues in the use of defence programmes and the programming process. For general programme management issues—performance architecture, alignment with higher level vision, goals and objectives, management of time and cost, leadership and accountability, etc.—the reader may refer to a number of published works and online resources.[3] This chapter is focused on one specific aspect of programme-based force development, namely the programme structure – the key for providing capability orientation of the force development process.

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[2] One example would be the need to finance the mitigation of the consequences of a natural disaster.

[3] See for example James T. Brown, *The Handbook of Program Management* (McGraw-Hill, 2007) and the references at the websites of the *Project Management Institute*, www.pmi.org, in particular its 2006 *The Standard for Program Management, and Program Management Professional*, www.programmes.org.

The chapter examines principles and practices of programme-based force development which, as shown bellow, is equivalent to programme-based defence resource management. It outlines the reasons behind the use of programmes and programming, shows what a good programme decision is and how it depends on the design of a programme structure, and singles out key activities in a programme management process and the links among them. In the concluding part, the main challenges in the successful design and implementation of programme-based force development in transition countries is briefly examined.

Rationale

Nations spend money on their armed forces with the intent to guarantee their security, and the security of their allies and citizens, against a certain spectrum of risks and threats. What is important, however, are not the armed forces per se, but the capabilities they provide for the implementation of the country's security policy.

Therefore, in assessing force management systems and practices, an observer attempts to relate, for example, resource allocation decisions to policy decisions. A typical question is how resource allocation leads to the realisation of the country's security and defence policy objectives. A particular aspect is the 'output orientation' of resource management, i.e., how the use of defence resources leads to a 'product' required in order to implement the country's security and defence policy. As a result of defence planning developments in the last decade or so, today it is generally recognised that the main 'product' of a defence establishment are its capabilities.

In addition, in good defence planning and force management systems, the allocation of resources provides for a set of capabilities that is balanced across the spectrum of nationally-endorsed missions of the armed forces, capabilities are developed and sustained in a cost-effective manner, planning risks are rigorously assessed and risk estimates are smoothly incorporated in resource decision making. Three additional criteria for assessing defence resource management include transparency, accountability, and flexibility. These subjects are addressed in the second part of the chapter.

There is certainly more than one way to create a good defence resource management system. Many NATO members and partner countries, influenced by the U.S. experience since the early 1960s, implement resource management systems in which plans are linked to budgets through programmes.[4]

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[4] The website of the Comptroller of the US Office of the Secretary of Defense provides both historical context and information on current developments of the US Planning, Programming, Budgeting, and Execution System (PPBES), www.dod.mil/comptroller/icenter/budget/ppbsint.htm. The basic text for PPBES is Charles J. Hitch and Roland N. McKean, *The Economics of Defense in the Nuclear Age* (Cambridge, MA: Harvard University Press, 1960).

Thus, through programmes, defence establishments intend to link policy requirements and budgets. Secondly, programmes serve to translate plans or visions of future defence and force structures—usually longer term documents, looking 10, 15 or more years into the future—into short-term activities – budgeting, procurement, training, etc. Importantly, defence programmes make the links between policy and budgets, long-term vision and short-term plans transparent, i.e., clearly understood by decision-makers and all major stakeholders.

The defence programmes are important management tools. In addition to their key role in the planning process, they support rigorous implementation oversight – receiving up-to-date information on the status of the defence programmes, senior civilian and military leaders can assess realistically the status of defence reform and transformation efforts and, if necessary, implement corrective measures. In addition, defence programme information facilitates the oversight and audits performed by the legislature and its specialised organisations, e.g., the national audit office.

What is a Defence Programme?

Currently, the prevailing understanding is that a major product, or 'output,' of a defence establishment are the *capabilities* it possesses to implement, if and when necessary, assigned missions in support of the implementation of a country's and alliance's security policy.

The build-up of a capability requires closely coordinated development of doctrine, organisational structures, personnel, weapon systems, infrastructure, training, etc.

Secondly, the development of a defence capability, barring a few trivial cases, is a lengthy process. For example, if a country does not have advanced fighter or bomber aviation, but decides to develop capabilities for long-range precision air strikes, it may easily take a decade from the point a decision to develop such capability is made until the moment this capability can be effectively employed.[5]

Thirdly, the development of new capabilities may be quite expensive. The sustainment of capabilities that do not relate to current policy is also expensive.

Fourth, a defence establishment has various requirements, and the development of capabilities for future operations is just one of them. Generally, decisions on which capabilities to develop, at what level and in what timeframe are made in a more general framework to account also for:

- needs of current operations;

[5] Even in case when someone is already producing an aircraft that suits the capability requirements.

- long-term investments, e.g., in science and technology, development of strategic partnerships, etc.; and
- necessity to deal with legacy issues.

For these reasons, the effective management of defence is based on programmes, including programme-based development of the capabilities of the armed forces. Before turning to the issue of programme-based force development, there is a need to clarify more formally what capability is.

Capability Models

'Capability' is a somewhat abstract concept. In ordinary usage, the term denotes the capacity to be or do or affect something. The planning community needs a common framework, or model, of capability that presents all capability components in a commonly understood manner.

Australian defence planners define capability as:

> The power to achieve a desired operational effect in a nominated environment, within a specified time, and to sustain that effect for a designated period.[6]

In the United States, the Homeland Security community uses the following definition:

> A capability provides a means to perform one or more critical task(s) under specified conditions and to specific performance standards.[7]

A capability may be delivered in a variety of ways. A number of countries have standardised models that describe the systems' aspect of capability:

- The Canadian construct of capability inputs is known as PRICIE,[8] the acronym standing for:
  - Personnel
  - Research & Development/Operations Research
  - Infrastructure & Organisation

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[6] *Defence Capability Development Manual* (Canberra, Department of Defence, 2006), 5, www.defence.gov.au/publications/dcdm.pdf.

[7] *National Preparedness Guidance*, Homeland Security Presidential Directive 8 (Department of Homeland Security, April 2005), 6-7.

[8] Called also *functional components of capability*. For a detailed description, the reader may refer to *Capability Based Planning for the Department of National Defence and the Canadian Forces* (Canada: Department of National Defence, May 2002), 24-27, www.vcds.forces.gc.ca/dgsp/00native/rep-pub/j-cbpManualPdf_e.asp (20 January 2006).

  - Concepts, Doctrine & Collective Training
  - IT Infrastructure
  - Equipment, Supplies and Services

- Australian planners use a construct of eight groups called Fundamental Inputs to Capability, or FIC.[9] These are:
  - Organisation
  - Personnel
  - Collective Training
  - Major Systems
  - Supplies
  - Facilities
  - Support
  - Command and Management

- The United States planners use the construct DOTMLP,[10] which stands for:
  - Doctrine
  - Organization
  - Training and Education
  - Materiel
  - Leadership
  - People

With the creation of the Allied Command for Transformation and its growing role in the NATO force planning process, it can be predicted that the ACT capability model, pos-

[9] *Guide to Capability-Based Planning*, TR-JSA-TP3-2-2004 (The Technical Cooperation Program, Joint Systems and Analysis Group, Technical Panel 3, MORS Workshop, October 2004), 7, footnote 4, www.mors.org/meetings/cbp/read/TP-3_CBP.pdf.

[10] Ibid., 7, footnote 6. The construct is commonly used by US Army planners (see *How the Army Runs*, 10, 38-42), but lately Air Force and Navy, as well as joint organisations—adding 'Facilities' in DOTMPL-F—also find it useful, i.e., to analyse functional needs, gaps and to identify solutions using enterprise architectures. See for example Ted Warner, "DOD's Ongoing Efforts to Implement Capabilities-Based Planning," *Monterey Strategy Seminar* on Capabilities-Based Defense Planning: Building a 21st Century Force (Monterey, CA: Center for Contemporary Conflict and the Cebrowski Institute for Information Innovation and Superiority, September 2004).

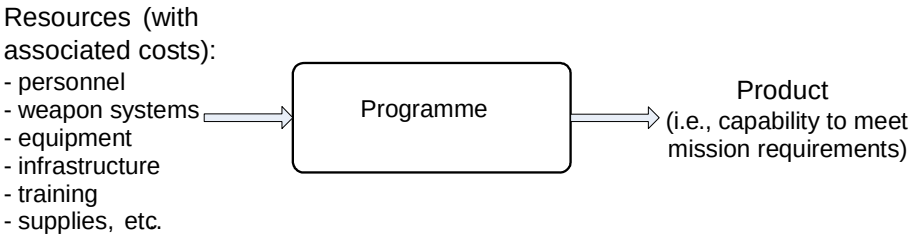

Figure 1: Designation of a Defence Programme.

sibly with minor modifications, will be introduced in the planning process of many countries. The NATO construct is known as DOTMLPFI,[11] which stands for:

- Doctrine
- Organisation
- Training
- Materiel
- Leadership
- Personnel
- Facilities
- Interoperability

Even though the models used may differ, each one is intended to provide adequacy, consistency and balance of the capability components, or inputs, while the development of a capability requires coherent development of the human, the materiel component, doctrine, structure and training. Such development is provided by programmes.

Defence Programmes

The defence programme is intended to provide for the attainment of defence objectives within resource constraints. The defence programme is:

> An integrated plan of intended use of available and expected resources (personnel, materiel, money, etc.) in order to achieve results, i.e. build and maintain capabilities.[12]

[11] See for example Admiral Sir Mark Stanhope, (then) Acting Supreme Allied Commander Transformation, Briefing to the Conference of National Armaments Directors /CNAD/ (26 October 2005), www.act.nato.int/multimedia/speeches/2005/051026asactcnad.html.

[12] Adapted from the official MoD document *Concept for Planning, Programming, and Budgeting in the Ministry of Defence and the Armed Forces* (Sofia: Military Publ. House, 2001), 14-15.

The primary function of a defence programme is to support resource decision making, linking resources to product (Figure 1) and providing for 'output-oriented' policy and plans. This is usually a mid-term plan that looks four to eight years into the future. Since NATO uses a six-year horizon in its defence planning and review process, i.e., for most force goals, in the reporting format of the Defence Planning Questionnaire, many NATO member countries and aspirants to join the Alliance also use programmes that look six year ahead. In addition to linking resources and intended results, the programme also serves to relate long-term plans to budget and other short-term plans.

Programme Structure

The defence programme has a hierarchical structure. It consists of programmes, sub-programmes and so on. Countries that intend to introduce programme-based defence resource management are advised to adhere to a few key principles in the design of a programme structure:

- Programmes should allow, as clearly as possible, to relate spending to 'product,' i.e., capabilities (see also Figure 1).
- It should be comprehensive:
    - Nothing can be done and no money may be spent outside the programmes;
    - It shall account for all money to be spent on defence (MoD budget, budgets of other ministries, bi-lateral programmes, NATO, trust funds, etc.);
    - Final decisions need to be made for all programmes at the same time, with objective analysis of trade-offs.
- It should provide for feasible distribution of responsibilities among programme managers (programme managers should have a stake in the good design and the successful implementation of the programme).
- It should be manageable (the programme structure and procedures should provide opportunities to objectively assess and search for trade-offs in resource allocation).[13]

[13] Todor Tagarev, "Introduction to Program-based Defense Resource Management," *Connections: The Quarterly Journal,* 5, no. 1 (Spring-Summer 2006): 55-69. The article is published also in Russian and Ukrainian.

The force development programmes are only a part of such a comprehensive programme structure and the decisions on force development are made as part of the all-inclusive programming decisions.

In the implementation of the first of these requirements, Canada's Ministry of National Defence uses a programme structure in which the programmes are explicitly called 'capability programs.' Canadian planners work with five capability programmes that, in combination, "encompass all the fundamental aspects of the business of defence in Canada, and do so by aggregating all the elements of capability planning into a simple—but not simplistic—framework."[14] The five capability programmes are:

1. Command & Control
2. Conduct Operations
3. Sustain Forces
4. Generate Forces
5. Corporate Policy & Strategy.

In the development of programme-based management of the armed forces, Ukrainian defence officials deliberate on a possible programme structure, consisting of the following fourteen programmes:

1. Capabilities for Peace Operations
2. Rapid Reaction
3. Defence of the territory of the country
4. Capabilities to increase the defence potential (Mobilisation and Reserves)
5. Command, Control and Communications (strategic & operational C3)
6. Central Logistics
7. Defence and Force Management (MoD, General Staff and supporting units)
8. Participation in operations (outside and inside the country)
9. Science, Research and Development
10. Education, training and recruitment
11. Medical support (includes rehabilitation and sanatoria recreation)
12. Housing
13. Social adaptation
14. Utilisation of surplus weapon systems, equipment, ammunitions and infrastructure.

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[14] *Capability Based Planning for the Department of National Defence and the Canadian Forces*, 4-5.

Both programme structures are similar in the way of dealing with (anticipated) 'current operations' (programme # 2 in the Canadian and programme # 8 in the Ukrainian programme structure), command and control capabilities (programmes # 2 and # 5, respectively), and centralised management functions (programmes # 5 and # 7, respectively).[15] Unlike the Canadian programme structure, the Ukrainian draft programme structure explicitly lists the requirements of investments 'in the future' (programme # 9), of tackling legacy issues (programme # 14 and, partially, programme # 13), and 'quality of life' issues (programme # 12 and, to a great extent, programme # 11).

Both the Canadian and the draft Ukrainian programme structures are capability-oriented. Other countries use programme structures that, on the first level, reflect the organisational structure of the defence establishment to a significant extent.

For example, the U.S. 'Future Years Defense Program' (FYDP) is comprised of eleven major defence programmes as follows:

Program 1. Strategic Forces

Program 2. General Purpose Forces

Program 3. Communications, Intelligence and Space

Program 4. Mobility (Airlift and Sealift Forces)

Program 5. Guard and Reserve Forces

Program 6. Research and Development

Program 7. Central Supply and Maintenance

Program 8. Training, Health, and Other Personnel Activities

Program 9. Administration and Associated Activities

Program 10. Support of Other Nations

Program 11. Special Operations Forces.[16]

Bulgaria's experience provides another example of organisationally oriented programme structure:

Programme 1. Land Forces

Programme 2. Air Force

Programme 3. Navy

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[15] These similarities were established in hindsight. At the time the proposed Ukrainian program structure was designed, the experts did not use information on the Canadian construct.

[16] *How The Army Runs: A Senior Leader Reference Handbook*, 25th edition 2005-2006 (Carlisle Barracks, PA: U.S. Army War College, 2005), 147, www.carlisle.army.mil/USAWC/dclm/html/figureshd.htm (24 April 2006).

Programme 4. Central Command and Support

Programme 5. Interoperability and Participation in Multinational Formations

Programme 6. Education and Qualification

Programme 7. Security: Military Police and Counterintelligence

Programme 8. Security through Cooperation and Integration

Programme 9. Quality of Life

Programme 10. Science, Research and Development

Programme 11. Administrative Management

Programme 12. C4ISR Systems

Programme 13. Military Information (Intelligence).[17]

A capability-oriented programme structure provides decision makers with better understanding of the policy implications of their resource decisions. However, when the first level of the programme structure has a prevailing organisational orientation, additional measures need to be incorporated in order to provide for output orientation of defence resource management using, for example, the experience of the United Kingdom with the institutialisation of "capability managers."

Programmes as a Language of Communication

All first level programmes combined constitute 'The Defence Program.'[18] Separate programmes—component parts of the Defence Programme—are a key part of the lexicon in the debate and communication at senior executive levels (in the Ministry of Defence, between the Ministries of Defence and Finance, in the Ministerial Council), between the executive and the legislature, and in parliament during deliberations on defence policy and the defence budget.

Experts design programmes and programme alternatives. It takes considerable experience and specific expertise to design an efficient programme for development of a capability, as well as to cost that programme, to design and to compare alternative programmes.

On the other hand, decision makers, both in government and parliament, use separate programmes and programme alternatives as building blocks in the design of a

[17] *Concept for Planning, Programming, and Budgeting in Bulgaria's Ministry of Defence and the Armed Forces* (Sofia: Ministry of Defence, 2001).

[18] The best known designation is the U.S. FYDP – Future Years Defense Program.

defence policy. Just like everyone uses words to create sentences,[19] decision makers use a set of potential, alternative programmes in order to find a construct that best fits the set of defence objectives.[20] In advanced defence planning systems, this task is known as creation of a capability portfolio.

For example, in 2003, during the deliberations on the proposed defence budget, the U.S. Congress decided not to finance a programme for development of an advanced concept for low-yield nuclear weapons, or 'mini-nukes.' Debating policy (and politics), representatives decided that this programme did not fit into the objectives and constraints set legislatively and, hence, cut the programme. The programme had a 'price label' of USD 6 million, thus the Pentagon did not receive these 6 million dollars.[21]

In comparison, a debate solely on resources, or the input side of Figure 1, cannot be a debate on defence policy. Respectively, a decision on the defence budget, formulated exclusively in the language of budget categories (titles, appropriations, paragraphs, etc.), cannot be a transparent resource allocation decision.[22]

In the previous example, had the Congress decided on the budget only, the Pentagon would not had any problems to spent USD 6 million out of a budget of USD 401 billion to pursue the development of mini-nukes.[23]

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[19] Another metaphor is to look at programmes and programme alternatives as building blocks of diverse shapes and size, out of which defence policy makers need to select in order to build a good house within an anticipated amount of money.

[20] The search for such a construct is also subject to a variety of constraints, projected budget levels being one of the key constraints.

[21] More precisely, the 2004 Defense Authorization bill authorised *research* on small, low-yield nuclear weapons of less than 5 kilotons, but did not provide funding for *development* or *production* of such nuclear weapon systems. In addition, the 2004 Defense Authorization Act includes a proviso that requires President Bush to seek congressional authority before ordering full-scale development of the new generation of battlefield nuclear weapons. See Merle D. Kellerhals, "Congress Agrees to Let Pentagon Study Low-Yield Nuclear Weapons," *Washington File*, 23 May 2003, www.iwar.org.uk/news-archive/2003/05-23-2.htm. Additional information is provided by Justine Wang, "Congressional Bills Passed Support Bush Agenda for New Nuclear Weapons" (Nuclear Age Peace Foundation, 9 December 2003), www.wagingpeace.org/articles/2003/12/09__wang_congressional-bills.htm.

[22] Transparent here means "clearly understood," i.e., that decision makers understand the consequences, both positive and negative, of their decisions.

[23] Just like the legislatures of many new NATO members and partner countries do.

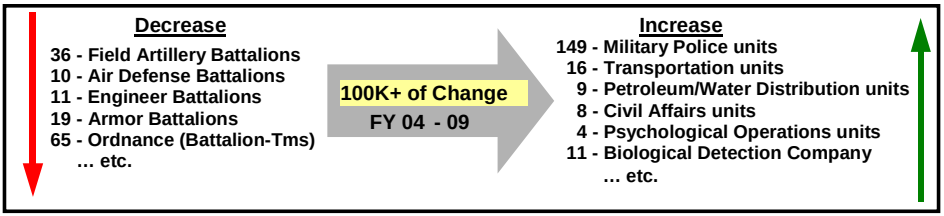

Figure 2: Restructuring of the U.S. Army in the 2004-09 Program.

Another example provides the decision of the U.S. legislature to increase the 2004 budget of the Army by almost USD 20 billion compared to 2003 and the personnel ceilings by approximately 30,000 soldiers. It is important to note that these decisions reflected the demands of ongoing operations, but were based on the 2004-2009 programme. The proposed programme envisaged the build-up of certain capabilities and, at the same time, the elimination of part of some more traditional capabilities associated with Cold War requirements. Figure 2 provides detail on this restructuring.[24] Thus, budget and personnel levels were defined as a consequence of decisions on capabilities, necessary to achieve security and defence objectives.

On the Force Development and Defence Resource Management Process

Resource decisions are made within a process that in itself needs to be transparent to decision makers, e.g., to allow the preservation of a clear audit trail from national security objectives, through defence objectives to taxpayers' money. Among the various requirements towards the resource management process, this introductory text briefly examines three essential aspects:

- How to create affordable resource constraint plans?
- How to deal with uncertainty?
- How to support the senior civilian leadership of a Ministry of Defence in the exercise of its authority and obligations as agents of democratic control of the armed forces?

[24] *Building Army Capabilities*, Draft Working Paper, prepared on behalf of President Bush (28 January 2004), www.comw.org/qdr/fulltext/0401armstructbrief.ppt.

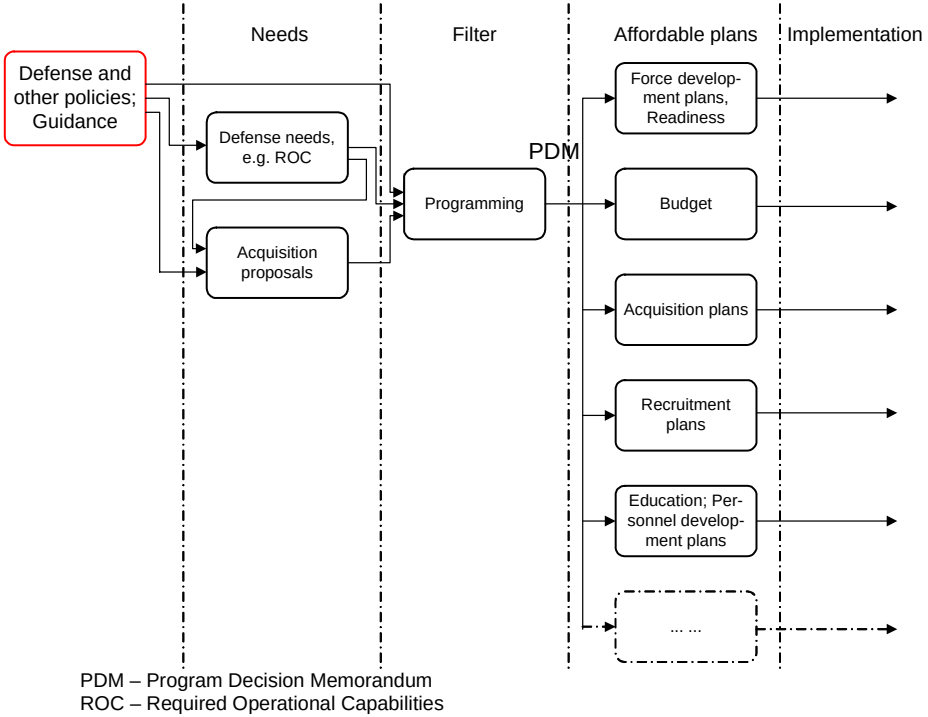

Figure 3: Defence Programming as a Filter of Competing Demands.

Programme Decision as a Milestone towards Budget, Procurement, and Other Short-term Plans

Often, decisions on required capabilities, or defence requirements in general, are resource informed, i.e., generally assessed as realistic, but not necessarily resource constrained, i.e., fitting within defence budget forecasts. When programme decisions are made, the cost of the defence programme for each future year does not exceed the defence budget forecast for the respective year.[25]

The availability of a good defence programming mechanism is key for making the process transparent to decision makers. When that occurs, senior decision makers concentrate on programme decisions and an endorsed defence programme serves as the sole authoritative source, in substance, for all subsequent short-term plans, including the defence budget, procurement plans, etc.

[25] Often this requirement is strictly enforced only for the first two to three years of the defence programme.

Here it is important to remember the principles of programming, listed above. The defence programme shall be comprehensive – nothing can be done and no money may be spent outside the programmes, there are no parallel planning processes with resource implications and all programme decisions (on the highest programme level) are made at one point of the decision making process. Only in this way it might be guaranteed that the defence programme is affordable and the programming has served as a filter of all competing demands (this is illustrated in Figure 3). Thus, the strict implementation of this aspect of the resource management process guarantees that all short-term plans are (1) affordable and (2) consistent.

Dealing with Uncertainty

Defence programmes, and plans in general, are designed under certain assumptions and forecasts and are later implemented in a changing environment. As a result, rarely can a programme or a plan be implemented and achieve the results exactly as prescribed. Among the explanations might be a need to undertake or participate in an unforeseen operation, changes in the economic environment, e.g., inflation rates, exchange rates, etc., changes in income or social insurance policy, inability to meet recruitment targets and delays in procurement procedures, etc.

An efficient way to deal with the impact of such uncertainties is the use of roll-on programming, i.e., new programmes are designed bi-annually[26] or—in a higher level of uncertainty—annually.[27] A considerable number of NATO member countries use such roll-on planning mechanisms. A notable exception is France, where a fixed six-year programme is approved by law. Once implemented, it is followed by another legislatively approved six-year programme. Ukraine is currently attempting to implement a similar approach, albeit under considerably higher uncertainty levels.

On occasion, the uncertainty may be even higher, e.g., due to very high—and unpredictable—inflation rates, lack of planning experience and undisciplined implementation (e.g., procurement of weapon systems that are not included in the programmes), etc. In such cases it may be necessary to review and update programme decisions within the budget planning and implementation cycle. This mechanism is sometimes referred to as pre-programming. Within the budget year, and if allowed by law, this may lead to reallocation of the budget among defence programmes. Both mechanisms provide flexibility in defence resource management, while preserving transparency and accountability.

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[26] For example, in the U.S. DoD *Planning, Programming, Budgeting, and Execution System* (PPBES).

[27] Bulgaria's *Integrated Defence Resource Management System* may serve as an example.

Other, qualitative changes in the environment for development of the armed forces—a new threat, creation of or accession to a defence alliance, impact of a disruptive technology, a new political party coming to power, etc.—cannot be accommodated through conventional defence resource management mechanisms. To account for such uncertainties, countries conduct comprehensive, in-depth analysis—sometimes referred to as Strategic Defence Review (SDR)[28]—that facilitates decisions on new, future force structures.[29] This is a target force structure, 15 or so years into the future that guides the design of force development programmes.

Involvement of the Senior Civilian Leadership

As a minimum, a programme-based defence resource management system includes the following steps:

1. Preparation of a Programming Guidance
2. Design of programmes and programme alternatives
3. Programme review, culminating in a decision on the Defence Programme
4. Budget planning
5. Budget execution
6. Reporting
7. Auditing

The design of programmes—step 2—is an expert activity, based on considerable specialised knowledge and experience in the respective field. The preparation of the draft defence budget in step 4 should strictly reflect ministerial decisions made as a result of the programme review. Therefore, budget planning usually does not involve strategic ministerial decisions that are qualitatively different from the decisions made at step 3. The use of programmatic information can considerably enhance the output orientation in budget execution and creation of reports, as well as defence audits – steps 5, 6, and 7.

All these steps are important in order to have an effective defence resource management. However, the attention of the senior civilian leadership, including the Minister

[28] For an exemplary SDR see *The Strategic Defence Review – 1998 (CM3999)*, Presented to Parliament by the Secretary of State for Defence by Command of Her Majesty (London, Ministry of Defence, July 1998), www.mod.uk/NR/rdonlyres/65F3D7AC-4340-4119-93A2-20825848E50E/0/sdr1998_complete.pdf.

[29] Usually, only a few main parameters of the force structure are defined. French planners designate it as a *model*, while U.S. defence planners regularly use the term *vision*.

or Secretary of Defence, is focused on the programming guidance and the programme review, steps one and three respectively.

The programming guidance, usually issued by the Minister of Defence, sets explicit defence objectives, main requirements, priorities, the overall budget level and preliminary budget quotas for each main programme, provides information necessary to cost defence programmes, assigns responsibilities and sets the programming schedule. In step 3, experts assess the correctness of programme design and compliance with programming guidance, but senior leaders decide on the programmes and programme alternatives to be financed, like the capabilities that will be developed, maintained, or disposed of.[30] This decision is recorded in a document, often named 'Programme Decision Memorandum' which, after authorisation of the Minister of Defence, serves as an authoritative statement of both policy and budget decisions of the senior leaders of the defence establishment.

Thus, the programme-based defence resource management process facilitates accountability and transparency. Military and civilian experts design programmes in compliance with policy guidance and their proposals are transparent to decision makers. Once decisions are made, they are responsible for the efficiency of implementation. On the other hand, civilian leaders are bound by their own decisions formulated both in the programming guidance and the programme decision memorandum. All stakeholders understand what the decisions mean. Finally, regular reporting in programmatic format provides for effective implementation oversight.

Conclusion

In the implementation of the principles of programme-based force development and defence resource management both new NATO members and partner countries face a number of similar problems. Without attempting to be exhaustive, we will list a few key issues:

- Lack of related defence planning experience, particularly in business process management, design of defence programmes, costing of programmes, assessment of cost effectiveness and analysis of alternatives in general, assessment of planning risks and incorporation of risk management methodologies in the defence planning process.

[30] For details on civil-military interaction, based on the experience of Bulgaria's Ministry of Defence, refer to Todor Tagarev, *Control, Cooperation, Expertise: Civilians and the Military in Bulgarian Defence Planning Experience*, ISIS Research Reports # 14 (Sofia: Institute for Security and International Studies, 2003).

- Lack of a formal operational planning process that produces objective metrics that clearly identifies capability gaps in the existing force structure when measured against established operational objectives.
- Organisational resistance, often drawing on a culture of secrecy, particularly within the military establishment, but also among the budget planning and financial management community. In reality, organisational resistance is expected since the introduction of a new type of resource management inevitably leads to redistribution of 'power' or decision making authority.
- One very specific issue is the use of the term *programme*. If a defence establishment intends to introduce programme-based force development and defence resource management, it should use the term sparingly and in the meaning described in this article.

The final and the most important lesson is that implementation cannot be successful unless the senior resource manager—the Minister of Defence or a designated deputy minister—acts in concordance with the principles of programme-based resource management.

Programme-based defence resource management is a very efficient tool to manage defence transformation, providing for transparency of decision making, democratic control and accountability of elected officials. It is one of the few available tools to implement effectively capabilities-based planning and to assess implementation of plans, programmes and budgets.

In particular, the introduction of the programming phase is seen as crucial to relate defence policy to money allocations, assuring 'value for money' budgeting and, potentially, effective democratic oversight of armed forces. The implementation of programme-based defence resource management can be strongly facilitated if the Parliament requests submission of the draft defence budget accompanied by adequate programme description, as well as programme-based performance reports by the executive power.

Finally, programme-based force development and defence resource management promotes civilian participation in the development of defence policy and contributes substantially to the effective, transparent and economically viable management of defence spending.

Chapter 4

Managing Finances

Gerd Frorath

Introduction

The management of finances for defence has to be examined as part of defence resource management, which is embedded in the overall resource management of a country. This is the basic premise in our examination herein.

More than any other budget allocation in a country, the budget for defence is considered by politicians, taxpayers, the media, the economy and industry, the military and security sector and, last but not least, friendly or unfriendly neighbouring countries and international organisations.

In principle, the national defence budget should be derived from the security and threat situation. In fact, due to the limited resources of a country, the budget is designed not based on threats but on the availability of resources. Since the end of the Cold War, the reduction or the seldom increase of defence and security budgets became a spectacular game for decision-makers on all governmental levels. On one hand, the lobby for defence or security in democratic countries is usually not very strong vis-à-vis oligarchies. Democracies do not need defence forces to keep their power. What follows from this is that budget cuts or reduction of forces are often very popular political means readily accepted by voters. In oligarchies, related budgets are placed under the veil of governmental secrecy and thus it is outside any public scrutiny. On the other hand, one has to take into account that today the threat and security situation in Europe has drastically changed and reforms are more than necessary. Hence, the focus should not be placed on defence only, but on security in general.

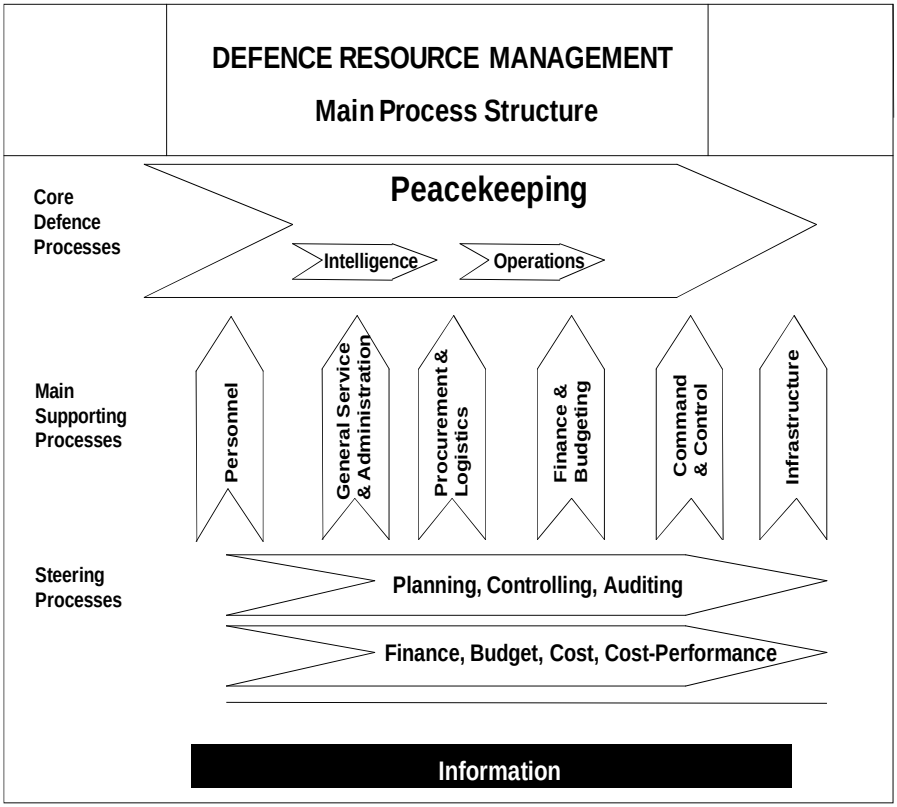

Figure 1: Defence Resource Management.

Consequently, when discussing the management of defence finances, we need to examine all financial aspects of providing internal and external security of a country.

It is important to underline and to explain to citizens that security—both internal and external, including defence—is a public good that is absolutely necessary for existence, freedom and for the positive development of the economy, culture and prosperity of the country. Hence, the public must pay for security and defence.

The security budgets—mainly the defence budget and part of the budgets of the interior, treasury, finance and others—have to be analysed, investigated and understood in their interdependencies. The next section contributes to this understanding (complicated to an extent by the fact that different countries have different definitions of defence, its management and its finances).

In this chapter, the reader will find several lists and specifications intended to make the content easily understood. They may further serve as a sort of 'checklist.' The

chapter is based on the author's own research and experience in both European and American countries in the public sector, particularly in defence, as well as in the private sector. Solutions and recommendations offered here reflect this rich personal experience. The focus is on defence and the management of financial resources as a particular type of defence resources.

Financial Management for Defence and Security

Parameters, Constraints and Critical Factors

This chapter is dedicated to defence examined as a part of national (internal) and international (external) security.

Figure 1 shows the typical structure and interdependencies in the management of defence resources. Defence is defined as a 'core process' and a number of 'main supporting processes.' The 'steering processes' are necessary to provide coherence and keep all the other processes running.

In most cases, the parameters, constraints and critical factors are different in each country examined and define a unique framework for financial management. Nevertheless, each country has to find ways to provide transparent, reliable, flexible and efficient financial management. In the respective search, one has to consider the implication of the political, economic and social situation and the level of development of the country. On the other hand, financial management needs to guarantee stability in the overall process of defence management and efficient utilisation of limited resources.

Unless already implemented in transition countries, the following state interventions and actions by the government with direct influence on the financial management are strongly recommended:

Restructuring	o the defence and security concept as part of the overall political concept, taking into account the actual political situation o the public administration and tax sector and the consequent execution o the industry, trade and bank (finance) system
Fixing	o the portion of the GDP (Gross Domestic Product) spent on defence o the size and structure of defence and security forces and their tasks
Supporting	o public-private partnerships o private initiatives in defence conversion and procurement o privatisation of state property and state industry
Establishing	o external and internal audit and controlling systems in the public sector

The following facts and constraints have a direct influence on defence finance management:

- Clearly defined roles of the Parliament and its committees for defence, security, foreign affairs, etc.
- Existing financial, budgeting and administrative laws, regulations and procedures and their consideration and application
- Distinctive definitions and responsibilities in the finance and defence management processes
- Changing international commitments and contributions in the processes of planning, budgeting and controlling
- The enlargement or reduction of the forces and their structure
- Short-term budget cuttings (e.g., resulting from a smaller income from taxes than anticipated)
- Unforeseen state expenditures arising as a consequence of catastrophes, disasters and major damages
- Inflation rates, wage increases
- Available information technology and communication systems
- Obligation for international competitive bidding (e.g., EU and NATO regulations)[1]
- The skills, attitude and mentality of the personnel (working morale, career perspectives, professionalism, corporate identity, no system change desired, loss of privileges, corruption, ethnic problems).

Difficulties and Problems in Managing Defence Finances

Administration, Bureaucracy and Financial Management Systems

The effectiveness and efficiency of any administration is to a large extent contingent on the methods used or its 'bureaucracy,' if we use popular terminology. This term often has negative connotations as a result of the fact that, over decades or sometimes centuries, administrative bodies have been known for imposing at their own discretion rules, laws, regulations and management methods on other community members. Sometimes the bureaucracy acquires privileges and advantages, which are kept by the concerned personnel even when hampering the efficiency of business management. In this case, chances are that administrative staff, often underpaid, easily apply certain

[1] For example, NATO-AC/4-2261 or EU–Regulations.

management procedures to improve their own financial status to the detriment of public interest and money.

To create and establish an efficient financial management system and to 'cut red tape,' the legislators have to impose an obligation to evaluate administrative and management procedures on the executive in order to:

- Adapt the system to the actual political, economic and social situation and to allow flexible adjustments to changes in the environment
- Adhere to international standards and regulations[2]
- Apply the rules of the 'new public management'[3]
- Focus on the introduction of new economic methods[4]
- Use modern information technology (IT) and communications systems
- Provide information on actual (daily) expenses and revenues on the different accounts
- Facilitate, simplify and accelerate the provision of budget information through enhanced data management and data access
- Improve transparency, reliability, accountability and flexibility
- Construct a lean and transparent financial management organisation
- Describe and apply clear rules of responsibility of the concerned personnel, including job descriptions and missions of all organisational elements
- Define decision-making powers that correspond to job descriptions and avoid the case when everybody is informed, but nobody makes decisions
- Create clear financial laws, understandable regulations and secure their consideration and application
- Prove the importance of each business transaction and assess the time used, the lines of communication and the abilities of the personnel involved
- Reduce cash payments in the whole finance system
- Establish organs for internal and external financial control and audits

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[2] Among the most important are the International Public Sector Accounting Standards (IPSAS), the International Accounting Standards (IAS) and the International Financial Reporting Standards (IFRS).

[3] A management philosophy used by governments since the 1980s to modernise the public sector, see for example http://en.wikipedia.org/wiki/New_Public_Management.

[4] For example, the Input-Output-Outcome philosophy. Controlling and others are briefly addressed in the next sub-section.

- Define clearly the responsibilities of the Ministry of Defence and the procedures for its interaction with other ministries, in particular with the ministries of finance, treasury, economy, and the interior, as well as demand the use of common IT-systems
- Involve experienced economic advisers, personnel and experts in the related processes.

The public services of some countries and many civilian companies gain experience by involving their personnel in this evaluation and renewing process and using their creative potential to find better solutions. The people in the organisation have to be encouraged to make recommendations and proposal for improvements, in particular as related to increase of efficiency or quality of working conditions and cost saving. To facilitate such involvement, it is important to have a central organ or an institution with responsibilities to assess the ideas and their possible realisation in a very short time and to reward the people that have made proposals regardless of whether they have been implemented or not. The following merit awards and incentive schemes are conceivable: incentive payment, days off, material gifts, official commendation, promotions and stay in recreation facilities.

The countries in transition economies must be very careful, critical and not in a hurry when taking over 'western defence finance systems' partly or in whole. An intensive stocktaking of their situation, resources, aims and abilities should occur at the beginning of the process leading to an eventual decision to revamp their system. Sometimes countries are fascinated by the gratis support offer and are not able to foresee future financial consequences. In some cases the offers are oversized in respect to the actual dimension of the defence organisation. The practice has shown that very often the implementation of proposals from 'system and support provider countries' caused a lot of problems or failed later on.

Definition and Limitation of the Defence Tasks and Budget

Without any doubt, the resource allocation of a country is one of the most difficult missions and decisions of the Executive and the Parliament. Most nations have limited resources and, consequently, the problem is to distribute these resources—mainly money and, indirectly, personnel, material and infrastructure—to meet overarching priorities, necessary demands and deficits and, last but not least, to keep the voters satisfied. From fiscal year to fiscal year, decision makers are challenged to keep the appropriate resource allocation balance in the country. Derived from that, the defence budget must be seen under the same constraints: balanced allocation of limited resources to fulfil security and defence tasks.

It is necessary to define 'defence' and, respectively, 'defence tasks' because most of the nations worldwide use different definitions deduced from their individual histori-

cal and political situations. It is worth mentioning that international organisations such as the UN, NATO, the Organization for Security and Co-operation in Europe (OSCE), the Stockholm International Peace Research Institute (SIPRI), the World Bank, and the International Monetary Fund (IMF), which also use defence figures in their work and missions, have different definitions of 'defence task' and of 'defence budget.' Consequently, their reporting criteria are different and this causes some problems for reporting nations. In this context, the consideration of the principles of transparency and reliability serves to satisfy various international as well as national requirements and builds confidence internationally and nationally. Even NATO, through its Defence Review Committee, annually takes a deep look into the budgets of all NATO members to determine whether all NATO countries share an appropriate portion of the total NATO burden to guarantee that Article 5 of the North Atlantic Treaty can be complied with at all times.

Transparency and reliability allow demonstrating to the public, the media and national and international partners the monetary value of defence to the effect that freedom is not obtained at zero cost: public funds are well spent for this purpose and spending is carefully controlled.

But there are limits to transparency due to security concerns and the necessity to classify defence-related information in some instances. Some parts of the defence budget, for example, relate to certain secret missions that are known to a very limited circle of people (e.g., the members of the Security and Defence Committee of the Parliament and the main players of the ministry involved). In this case, a 'Secret Annex' to the budget can solve the problem and the respective amount can appear camouflaged in the defence budget or in a separate state budget.

The next problem in managing defence finances is the allocation and appropriation of revenues and income to the defence budget. If the defence sector has earned money by a certain performance, it should be credited to the defence budget because the defence establishment has utilised its resources to 'produce this performance.' In financial practice this means that besides the expenditure account, revenue accounts also have to be opened. If the amount of the revenue cannot be estimated in advance, the account has to be set to zero and filled in with the appropriate figures later on. The main state budget-holder, in most cases the Minister of Finance or Treasury, tries to credit this money to his accounts.

Examples for defence revenues could be:

- A military unit working for or supporting a civilian company in road or bridge construction
- A defence unit supporting the organisers of an international sports event with personnel and transportation
- A useless storage room in a barrack rented to a civilian firm

- A military unit engaged in an international fire-fighting mission or in a UN mission.

In principle, profit-making is not the aim of defence. Such employment of defence units should be very limited and exercised only as an exception. The tendency seen in some eastern countries to provide for non-military missions and production should be eliminated or significantly diminished. The defence forces have to concentrate on the real defence missions, although certain—potentially profit making—military capacities are available in peacetime. If such defence capacities of potential dual purpose are still wanted, this has to be considered in terms of both budget revenues and expenditures.

New Economic Management Philosophy and Procedures

The limited resources for public sectors worldwide invite new thinking on conventional resource management, new ways of planning and execution. Supported by science, experts in public service are looking for new solutions. The 'new public management' has to define performance measures in product, programme, project or similar terms. The cost for the 'product' is estimated in advance and managers have to keep the 'cost' of the respective performance within set limits.

The orientation from the so called 'input-' to the 'output-' or 'outcome-philosophy' is the basis for the new public management, functioning in a free market economy. The extensive growth of IT and the opportunities it provides opens new approaches for the public sector, including defence, to realise new management rules and procedures.

Management systems that are 'output-' and 'outcome-oriented' are finding wide acceptance in the public sector. Their implementation amends or supersedes the cameralistic system that has been in use since the late middle-ages. The cameralistic 'input-oriented' system is based on the fact that the sovereign/the government spends a certain amount of money for a fiscal year (FY). It is expected that the money is spent in full within this period (FY), and there is no control on the results.

However, if defence is to be transparent, it is necessary to know whether goals and objectives have been achieved by spending the allocated money. The aim of the Public Sector, which includes the defence sector, is to control the input by checking the output (the quantity of the products) and the outcome (the quality and efficiency).

The whole construction can be covered by controlling systems. Prerequisites for this procedure are the definition of performance and procedures in place to measure that performance.

But what does 'performance' mean? In English, German and French the term has different meanings. Derived from the natural sciences, the following formula and definition could be applied to the economic sphere and, consequently, to the defence sector as well:

Performance = Work per Time
OR
Workload related to other measurable factors

Performance is the desired result in a production process, or service in the service sector, that can be determined by a measurable factor or a product (or service) definition.

In the defence sector, the determination of performance figures and performance data is sometimes difficult and complicated, but feasible.

The aims to develop such performance figures are:

- The possibility to compare the performance of different units, agencies or products, processes, etc.
- Apply benchmarking: internal comparison and orientation to the best case
- Calculate the cost or the price
- Support finance planning and execution
- Make external comparison with civilian companies and bidders as basis for outsourcing or insourcing decisions
- Conduct economic assessments
- Support internal and external controlling systems
- Provide actual information to management bodies
- Support management change.

Experience in both business and public organisations clearly shows the advantages of modern and efficient finance management that utilises performance data and figures. Numerous public services and defence sectors are successfully applying these systems. But it must be emphasised that such fundamental change must be carefully prepared and realised step by step, starting with a few 'pilot' activities to gain experience.

Founding New Enterprises/Agencies by the Government; Outsourcing

Of increasing popularity in the cooperation between government and industry in free markets is the creation of agencies or enterprises to perform defence missions and/or functions that can be:

- owned by the government;
- partially owned by the government (with more or less than 50 percent in private hands); or
- fully private.

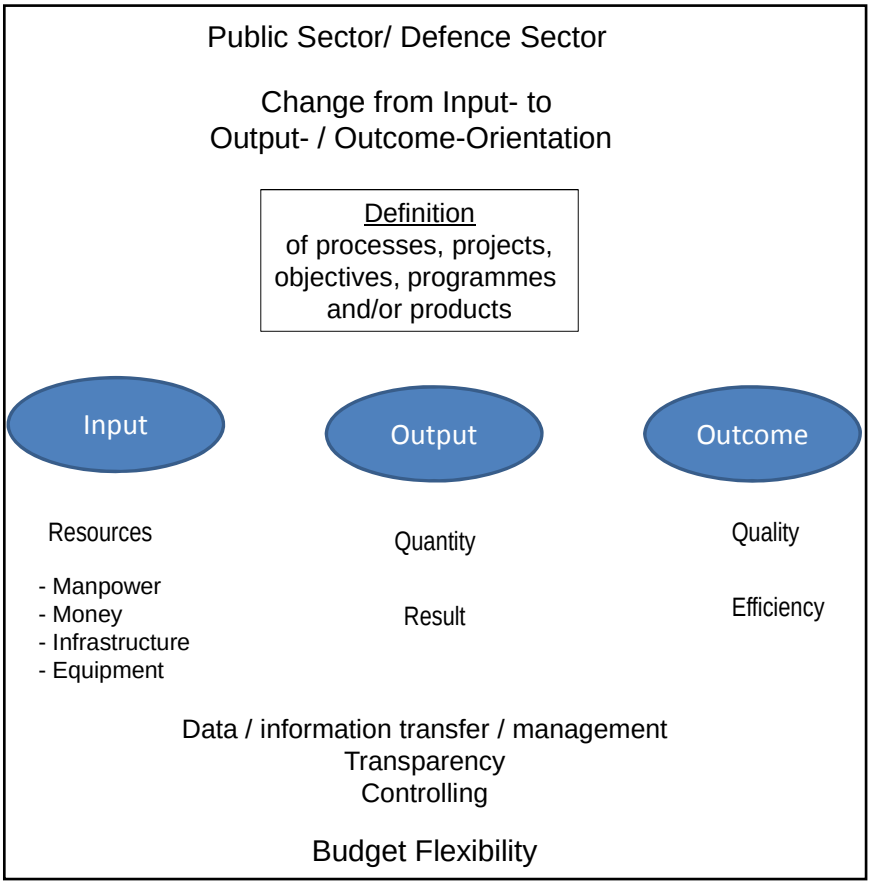

Figure 2: The 'New Public Economy' and Interdependencies.

The reasons for adopting such an approach may be economic or a consequence—intended or not—of force reductions. It is important to understand that such new cooperation models can have a negative effect on defence financing and, possibly, on the price that has to be paid by the defence establishment. In considering this approach, the following issues must be clarified in advance:

- Do the enterprises/agencies have to pay taxes?
- Is there an expectation for profit and a shareholder value?
- Who receives the profit (government or other shareholders)?
- What is the new status of personnel (soldiers, civil servants) taken over by the new organisation, e.g., will it be a civilian company?

- Who will cover severance packages in case of reduction of personnel?
- Who controls the enterprise/agency and who makes decisions?
- What are the effects on related state and defence infrastructure?

The respective basic options also touch on the question of in- or out-sourcing activities and their financing.

Before an outsourcing decision is made, it is recommended to start with optimising the concerned organisational element or service and/or mission. Consequently, the 'optimised option' can be compared in terms of cost with offers by civilian bidders. A prerequisite for any decision is that the defence sector has calculated and assessed their price and performance. The assessment of offers by a civilian company should include performance issues as well, and account for taxes, insurance rate, profit, special fees, risk fees, short-notice fees and, probably, maintenance of reserves, which creates an additional burden for the defence budget. In most cases, companies are not willing to provide a very detailed invoice, but only a total amount.

Later on, it is possible for one civilian company to develop a monopoly position that may then lead to a dependence of the defence sector regarding price and availability, as well as performance. The provider of services could also encounter problems, e.g., in cases of tension and war, or in supporting operations in regions far away from the homeland. Some examples are:

- Service is not available at short notice
- The contractor's personnel have non-combatant status
- Transportation means are not available
- The price is increasing to cover additional risk, etc.

Sometimes companies start with a low offer and then increase their prices.

It is worth mentioning that between 60 and 70 percent of the defence budget, spent in the country, comes back to the state in the form of direct and indirect taxes and social contributions. This is indeed a major fact in the decision-making process regarding contracts with foreign companies.

Closely related to the options outlined above is the need for the finance manager to think about new ways of financing, governmental changes of the monetary policy and, possibly, changes to laws and regulations.

There are several possibilities:

- To loan money from the market (the bank sector)
- To loan money from the contracted company
- To loan additional funds from the Ministries of Finance, or Treasury, and pay interest

- To establish a reserve fund for spending later in the fiscal years
- To sell state property (materiel, infrastructure) and credit the revenue to defence accounts.

Limited resources, the reduction of public administration and defence forces, combined with the application of new economic methods, the spread of modern IT, public-private partnerships, outsourcing and a greater transparency and adaptation to international finance standards in world-wide networks force governments, communities, public organisations and the defence sector to develop new solutions.

Defence and Security Tasks

Now we will turn back to the questions posed in the previous section: “What is to be considered as a defence and/or security task?” and “How to define defence?” A possible answer could be found through an analysis of defence and security tasks and missions by concerned ministries and use of practically-orientated terms. The experience of the Ministry of Defence of Germany provides the following example in defining tasks:

- *Core task*, e.g., military operations and exercises
- *Supporting task*, e.g., logistic support, education and training
- *Neutral task*, e.g., installation of an IT-system, provision of military housing or infrastructure.

This differentiation can lead to an answer on the appropriate size of combat and supporting forces, on the tasks that could be performed by civilian personnel in public (defence) service, as well as on tasks that could be transferred to an ‘outsourcing arrangement’ – to governmental or partly-governmental agencies, public-private partnerships or civilian companies.

Corresponding to the results of the analysis and the decisions determining different defence tasks, we need to consider which ones are typical defence tasks and, hence, which tasks have to be covered by the defence budget. The following are examples deserving such consideration:

- Social care and the health system
- Recreation system and facilities
- Housing for soldiers and civil servants
- Peacetime/administrative transportation
- Pension system
- Insurance system

- Pre-military organisation
- Para-military organisation
- Civil defence system
- Production of non-military goods
- Logistics and service support
- Support to civilian authorities in disasters and catastrophes
- Human, material and infrastructure conversion, disarmament
- State security and intelligence systems.

Other governmental budget-holders as a rule try to avoid payments for such expenditures from their budgets.

Changes in Budget Allocation

Now we will examine briefly the consequences and interdependencies in financial planning and budget management processes when decisions on defence budget appropriations are re-examined. Decisions that relate to spending indirectly often have similar consequences.

If, for example, a decision is made to terminate free housing for military personnel, it would mean that a higher salary has to be paid to allow the solders to cover the costs of leasing their housing. As a consequence, personnel costs in financial plans are increasing, housing infrastructure has to be sold or outsourced and the organisational structure of units or agencies that deal with housing has to be adapted. Respectively, their budgets also have to be adapted.

Likewise, the government (or the responsible agency or ministry) often has to consider whether to allocate expenses to the defence budget for:

- international missions (UN missions, other peacekeeping missions, peace enforcement, humanitarian interventions, disaster relief operations, etc.);
- rent or interest to finance military investments;
- increase of personnel costs, like wage increases , etc.;
- support to the development of key technology by civilian organisations;
- environmental damage caused by the armed forces; and
- social payments for:
    - active and reserve personnel (veterans);
    - clubs/organisations;
    - military privileges; and

- sports and culture, etc.

The government, that is the politicians, supported by expert planners, has to decide very carefully what sort of tasks and missions should be assigned to the military and what should be outsourced to the civilian sector, performed by other ministries/ agencies, neighbouring countries or international organisations.[5] This implies that costs and performance have to be estimated prior to the start of the decision-making process.[6]

Additionally, experts conduct risk analysis and develop alternatives, including 'worst-case' options. The planner and financial manager have to react on or resolve the following difficulties and problems:

- The industry has no capacity available to provide budgeted items
- Avoiding dependence on other countries, unemployment and loss of tax income by keeping core defence industries in country
- Inflation rates, market- or production bottlenecks
- Obligations for international bidding
- Reliability and expense data
- Budget cuts
- Lack of central data collection and access to necessary financial data
- No flexibility in planning and budget execution.

Structure of the Defence Budget

One of the basic issues in defence finance management is the budget structure. The budget structure of a country is defined by laws and regulations and cannot be changed easily even if a good proposal to enhance the defence finance system is made. In some cases, it is the resistance of acting personnel that hampers necessary changes.

The following types of defence budget structures are commonly applied, with the respective—exemplary—budget categories:

- *Structure along Cost Groups*: Military and Civilian Personnel, Operating and Maintenance, Procurement, Infrastructure, Research and Development, Administration
- *Structure along Organisational Lines: A*rmy, Air Force, Navy, Reserve Forces, Interior Security Forces, Railway and Construction Forces, Police /Border Police/ Coast Guard, Intelligence Service, Customs Authorities

5 In interim options, a mission or task would be performed jointly by two or more organisations.

6 The section on cost accounting below provides details.

- *Structure Combining Appropriations and Organisational Aspects*: Federal Ministry of Defence Offices; General allowances (including revenues); Military commands (personnel and administration); Civil administration and personnel; Military spiritual, welfare and medical services; Provisions and clothing; Accommodation/ infrastructure; Communications and information technology; Quartermaster and army equipment/ordnance; Ships and naval equipment; Aircraft, missiles and Air Force equipment; Military research, development and testing; Allowances, contributions to NATO and other international organisations
- *Structure along Projects, Programmes, Processes and Products (Examples):* Force reduction; Social programme; Air Defence; Infrastructure maintenance/ housing; Coastal protection, search and rescue (SAR); Training military reserves; International contribution and commitments; New transport aircraft; New Headquarters; Communication and information technology
- *Mixed Budget Types:* Often, defence budgets are structured as a mix of two or more of the types presented above. Each type has advantages and disadvantages. It is not that important which type of budget structure is selected as long as the demands of defence are met.

Planning, Programming and Budgeting

Accountability, Flexibility and Transparency

Both accountability and transparency are the main factors for an efficient and flexible defence finance management that corresponds to demands of the general public, taxpayers, legislative bodies and the international community.

The following objectives are pursued in this context:

- Enhancing defence planning, programming and budgeting to guarantee reliability, sustainability, accountability
- Determining actual costs and expenses to secure reliable budget forecasts
- Heeding the principle of economic efficiency to provide cost minimisation and increase of efficiency
- Deciding on insourcing and outsourcing in areas of joint support, whereas purely military and sovereign core tasks are retained by the armed forces.

The experience of Germany provides an example for transparency. The final Annual Defence Budget has to pass the legislature. It is approved as a law consisting of approximately 180 pages. It is available for everybody and can be bought in book-

shops. In this way, the public has access to the most important data of this budget and the democratic rule of transparency is fulfilled.

However, even in such cases planning and budget figures are not always easy to comprehend and interpretation by an experienced budget planner may be necessary to understand what the respective figures stand for. Sometimes figures are camouflaged, sometimes they are faked, sometimes they are not precise because of lacking empirical data and sometimes figures may even be missing. Such cases make the work of financial managers, and even more so of outside observers like the media, more challenging.

Budget Planning Cycle

In democracies, the government and the parliament develop the political concepts and aims and carry the budget responsibility. Consequently, they determine the planning and programming cycle. The planning and programming cycle is always dependent on the fiscal year and the fiscal cycle (e.g., two, three, five years). The differentiation of the cycle is in terms of its duration: it may be a short-, mid- or long-term cycle. A mid-term cycle—three years and more—gives some stability to the financial planning and programming process but also increases the risks of disturbances in case of unanticipated financial changes. The long-term cycle implies many financial uncertainties and can only be done very roughly. In most cases, this can imply higher cost and delays in the execution and results in further financial management problems.

Some defence concepts include programmes, projects, objectives, etc. The inclusion of programming challenges the so called ‘cost-performance calculations’ to gain the correct figures. In parallel to the planning cycle, Germany and some other countries have developed a procedure called ‘ability analysis.’ Such parallel procedures are used in case of very limited resources to provide efficiency and response to quickly changing demands, especially for international missions, through definition of ‘ability gaps,’ prioritisation, planning and realisation in a relatively short timeframe. But this parallelism may have a great impact on the short- and mid-term planning, programming and financing/budgeting, and requires considerable additional coordination.

Cost Accounting

The weakest links in the chain of finance management involve cost and expense data. In practice, the value and effectiveness of financial forecasting, finance planning, programming, budgeting and controlling are mainly dependent on the available data. The best systems and procedures cannot work efficiently if the underlying data is wrong, out of date or if it is not reliable, transparent and recognisable.

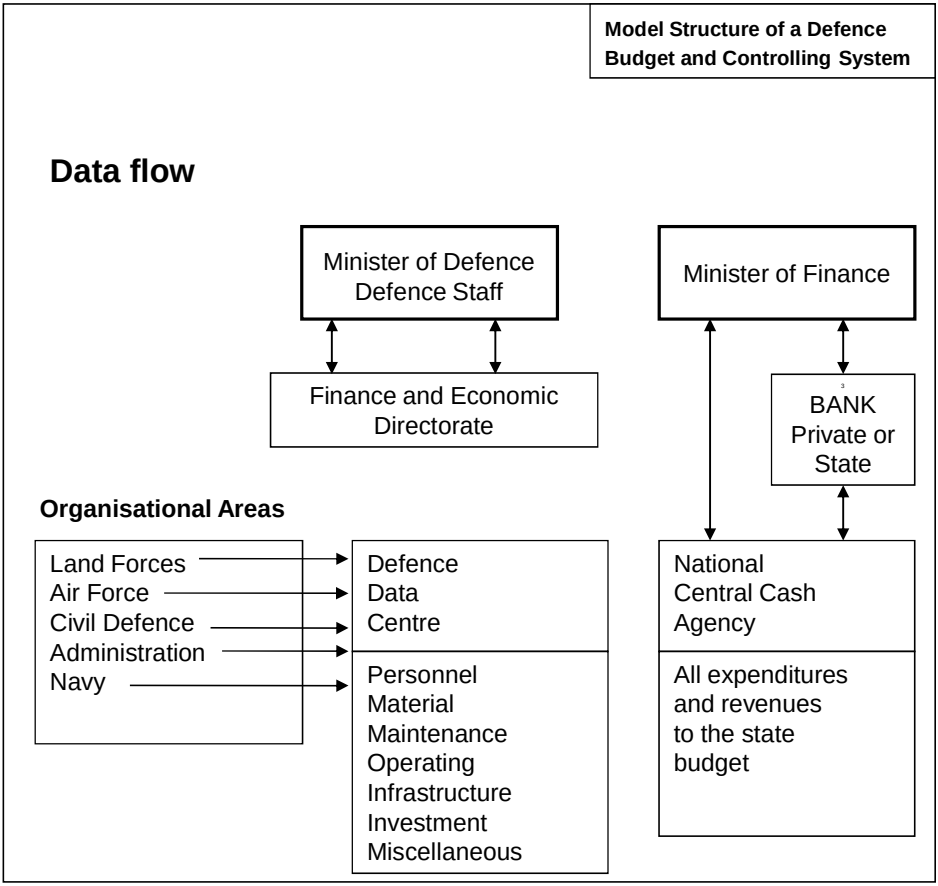

Figure 3: Cost Accounting Application and Data Flow.

Application of Cost Accounting

Cost accounting is the main prerequisite of efficient resource management and finance management in the private, as well in the public and defence sectors. It should be mentioned that the public/defence sector has recognised the value of cost accounting but is still far behind developments in the private sector.

In some cases, even the terms 'cost' and 'expenses' are incorrectly applied. The general definitions are as follows: Costs are estimated monetary resources consumed in a certain time period. Expenses cause money to be paid out (in cash or otherwise), spent and to be booked in a budget account. The application and the use of cost data are necessary in the following fields:

- Resource management, including budget and finance planning
- Accountability for defence expenses and revenues in parliamentarian control
- Provision of information to the citizens, the media, the international community (as confidence building measures), audit and controlling organisations, the defense ministry and defence organisations and the main budget-holder, e.g., the Ministry of Finance/ Treasury
- Economic analysis and evaluations
- Price calculation and cost comparison for in- and out-sourcing decisions
- Privatisation and public-private partnerships
- Assessment of cost-performance and life-cycle-costs
- Invoicing for national and international reimbursement, cost-sharing and financial support.

Figure 3 shows the possible data flow in the defence organisation with a common data centre. The units and services are the main data provider, whereas the 'main players' have clearly defined access rights to the generated data.

Cost Accounting Organisation

A cost accounting organisation may consist of commands, units, agencies, data centres, institutions, etc. It deals with cost accounting with the following objectives:

- To collect and process all relevant data in support of effective and efficient cost accounting
- To ensure high-quality data in terms of actuality, relevance, transparency, reliability, differentiation and accuracy
- To shorten the lines of communication for data transfer, thus gaining time
- To avoid the collection of too much data, which can not be used or analysed (in other words, to avoid turning the data into a so-called 'data cemetery')
- To establish data centres (data-processing centre, a data warehouse) and centralise data collection and data processing
- To train and motivate the personnel involved in the cost accounting organisation
- To ensure quick access to data at different levels on a 'need-to-know basis' while considering the rules of secrecy.

For countries with relatively small armed forces, a single cost-accounting and data-processing centre may suffice. Such an arrangement will simplify the collection, evaluation and processing of cost data. This centre may further serve as a neutral cal-

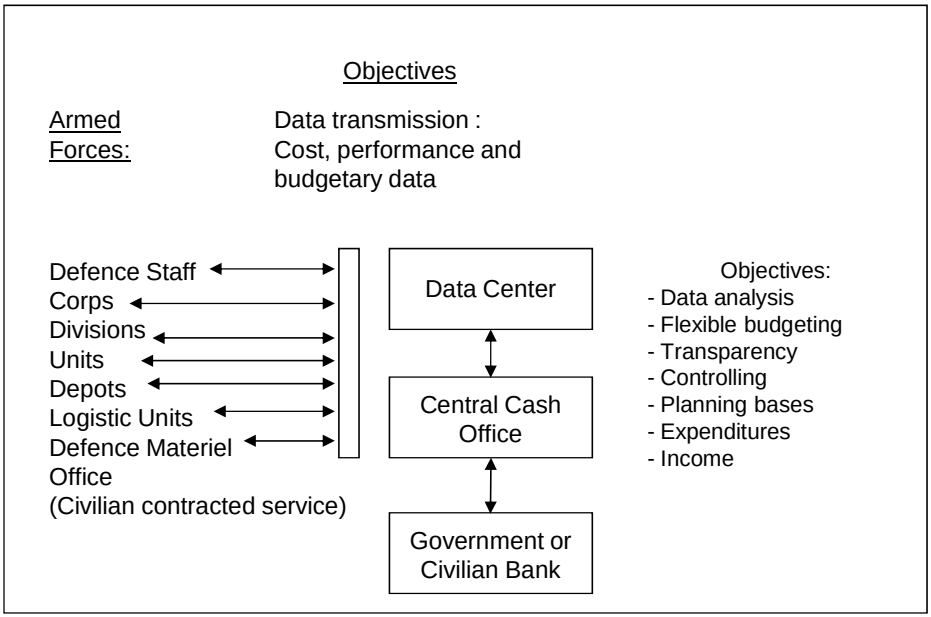

Figure 4: Example of Data Transmission.

culator and provide economic analysis to parliament, the government audit office or internal audit authorities.

A larger force size may require the establishment of regional data centres on different levels, while communication and data processing are facilitated by advanced communications and information technologies.

Cost Accounting Methodology and Procedures

The estimation of cost is based on real historical and empirical expense figures. Consequently, a link between the budget with the expense figures and the cost data is of importance and must be provided in the organisation. Several differentiations of costs are used in economics and should be used in the defence sector as well:

Full costs	Partial costs	Special costs	
Direct costs	Indirect costs		
Fixed costs	Variable costs		
Operating costs	Running costs	Maintenance costs	Labour costs
Cost-plus	Overhead costs	Administrative costs	Investment costs

Before using these terms, they have to be clearly defined, describing also their constituent elements. In the framework of the NATO-Russia Council, the NATO Economic Committee launched an initiative at standardising these definitions but so far has not achieved the anticipated results.[7]

In most nations that apply cost accounting, the following three cost groups are commonly used in defence:

Full Costs

The full costs include all cost elements and are calculated for comparison with public sector and civilian companies for the purposes of economic analysis, for price-building and invoicing for services and products given or offered by the defence organisation to the public sector or another requesting entity.

Partial Costs

'Partial costs' exclude some cost elements. They are calculated for national or international agencies, e.g., the United Nations (UN) and institutions and foreign ministries of defence—on the basis of an agreement—to simplify the calculations and build a certain level of confidence. Usually, this approach is used in order to define and declare the additional costs arising for the service provider, e.g., in cases of support in natural disasters, provision of air transportation or any other support to other ministries.

Special Costs

Special costs are defined depending on their purpose. For example, costs for operations and maintenance (based on real consumption and related expenditures) and for procurement, etc., form the basis to calculate forecasted cost data used by the Ministry of Defence in budget planning.

These costs are based on empirical data. That means the average costs for previous years are used to form the basic value. On that basis, cost planners generate new costs taking into consideration all future-oriented views, parameters and intentions. These forecasted costs are fairly difficult to calculate and should be amended in the planning phase if necessary.

To ensure a simple and transparent calculation, a special 'standard schemata' that includes the different costs or cost elements must be developed for different 'cost groups' and subordinate costs. The German experience provides a practical example. Annually, the Cost Accounting Centre publishes a 160-page book (and a CD-ROM with

[7] NATO-Russia Council AdHoc Working Group Programme 2004, Annex 1, Conclusions of the "linguistic workshops on economic and financial terminology in the field of defence." The reader may find useful these two studies: SAS-028 "Cost Structure and Life Cycle Costs for Military Systems" and SAS-054 "Methods and Models for Life Cycle Costing." Both reports, in full text, can be freely downloaded from www.rta.nato.int/ panel.asp?panel=SAS&topic=pubs.

the same content) with cost figures and guidelines for their application. To provide for optimisation and feedback, the users are asked regularly to assess the quality and the serviceability of this 'cost guideline.' These same cost figures are available throughout the defence sector and have to be used as a common and equal basis in several financial management purposes including forecasting, budget planning, for controlling and audit purposes, individual cost-performance calculations and for economic investigations. The Centre is obliged to send the published guideline to the Ministry of Finance, to the Federal Audit Organisation, to the Parliament, defence units and agencies and to other relevant public authorities.

A number of additional cost accounting problems are commonly encountered:

- To estimate overhead costs (the costs from the producing unit all way up to the Minister of Defence)
- To take into account inflation and currency convergence rates
- To mix calculations of costs and expenditures
- To change the relation between fixed and variable costs and, in particular, to estimate common costs.

An efficient cost accounting system solves these and other problems.

We will use an example to show how the requirements for an effective cost calculation may be achieved: The payments to personnel should be fully centralised and, importantly, not made in cash but via transfers to personal bank accounts. All payment information has to be transferred to the data centre without delay. Consequently, the data processing system is able to deliver actual personnel expenditure data on short notice. At any time the cost accounting centre can receive up to date data and calculate the cost figures for current and forthcoming fiscal periods – that is for budget execution, planning, controlling and other purposes mentioned above.

The most essential measures in establishing a useful database and data bank are:

- Standardisation, e.g., procedures and cost calculation rules
- Centralisation, e.g., central collection of data by the data-centre
- Actualisation, e.g., daily bookkeeping of expenses and fast transmission
- Transfer of information/ data, e.g., by existing electronic-mail systems
- Common standard software (for all agencies in defence and other ministries)
- Training of personnel (to provide the skills necessary to manage the systems)
- Establishment of cost-performance calculation in all larger units and agencies (step by step, starting with the most important units, possibly as 'pilot action' cases)
- Securing data maintenance, data protection and security.

Cost Performance Accounting

When a cost accounting system is established, the next step is to introduce a cost-performance accounting system. The basis for the realisation of intricate cost-performance accounting is a functioning cost accounting system and expert determination of different performances (see Figure 2).

In the past, there was no control over the output (the quantity) or the outcome (the efficiency or quality) of the utilisation of resources in defence organisations. Accounting systems in the private sector found the way to fulfil respective measurement and control requirements. In the defence sector, that means that performance, work, service, productivity, programmes, processes, projects, objectives, missions and tasks have to be determined and related to costs. Then, once the respective activity has been accomplished, we should be able to answer the question: "Was the efficiency objective achieved and, if necessary, can we make a comparison with the private sector for benchmarking, outsourcing and other purposes?"

Output/outcome controlling based on cost-performance accounting will be a valuable tool for the responsible commander or person in charge at all levels of the defence organisation to prove whether he or she has achieved the expected objective or mission efficiently. It is very important to note that for performance, e.g., social service, motivation, combat readiness of soldiers or weapon systems or skill/training level, for which a monetary value cannot be calculated, we still need to develop 'standard value figures.'

Cost-benefit accounting is examined along the same lines, although the definition of 'benefit' can be complicated. It can be applied preferably to defence procurement, infrastructure development and the training and material sector. Cost-benefit accounting figures express utility in relation to cost. The determination of benefit or utility figures is based on subjective valuations and assessments.

Technical Realisation

In times of limited defence resources, most defence establishments cannot expect to receive additional funds to build, for example, a modern communications and information system as would be necessary to support advanced budgeting and cost-accounting, within a short period of time. Therefore, it is important to start by analysing the available systems and investigating how—step by step—a new or optimised data processing system can be installed.

In recent years, some defence and finance management sectors established, in line with rapid IT developments, numerous data processing systems and now face the problem of unifying or replacing all these different systems. The 'golden solution' would be to equip all ministries and the whole finance and business management organisation with the same system. The technical equipment should be standard, from the pri-

vate market, and should encompass—besides the finance sector and accounting—the fields of logistics, personnel management, procurement, infrastructure and controlling and administration, with some of these added or adapted later on. Taking into account the orientation to international accounting standards, in the future it might be possible to select and introduce globally available software that is successfully used in the private sector.[8] Countries with relatively small forces and very limited financial, human and material resources can find their solution in using existing online or telephone systems for simple data transmissions. The IT system in use should be applied as long as feasible, with a step-by-step transition to one 'standard' system. Planners need to consider the need to parallel use of the old and the new system for a certain—possibly long—period without interrupting the main financial management services. This is a real challenge.

Parallel to the installation of the system, procedures and regulations of the whole financing/accounting system have to be amended and adapted. The experience of foreign defence experts could be of use here.

Budget Execution

One of the major problems in budget execution is the fact that budget figures, which have been defined maybe one or more years before the start of the fiscal year, are not definite due to the relatively long and complicated process of planning and approval by the respective organisations, e.g., the Ministry of Finance, the Parliament, the Audit Office, etc. One solution is to amend and update the data through a last minute list of options to be approved by the Parliament at the end of the 'budget reading period' and shortly before budget execution starts.

Another possibility is considering the actual financial situation and solving problems to allow certain flexible transactions in the budget. Some problems may be resolved by establishing budget flexibility rules, e.g., to allow transfer of money from one chapter/appropriation item to another, from the current fiscal year to the next one, from one project/programme/objective to another and from one ministry to another ministry.

Such flexible budgeting could be applied at nearly all levels of budget-holders. When one organisational unit has saved money in providing an item, it should be allowed to use that money for another item or purpose within certain limits. This will increase the responsibility of authorised personnel to spend money sparingly and will give them the motivation and the understanding that the transfers undertaken bring personal or organisational benefits. A prerequisite is the trust between superior and subordinate levels and these financial transactions should not breach that trust. In the units, flexibility during budget execution should be related to resource-saving and rec-

[8] Of the type of SAP R3, IBM and similar.

ommendation-programmes (described briefly above). Some nations achieved very positive results through the use of such flexible budgeting procedures.

In some transitional countries, the time for the transfer of financial data from the lowest level unit through the organisational hierarchy up to the Ministry of Defence may take from between four to six months. Such delays make some of the most important information for adaptive decision making—the financial figures in budget execution—practically useless.

One example in this context is the so-called 'December fever.' In the past, a certain amount of resources (or so-called 'inputs') were available for either the fiscal year, for a defined period of time or for a mission. It was—and still is—a favourable game to report officially that all resources for that period have been used and thus convince the provider (budget-holder) of resources to dedicate the same amount or more money for the next period. At the end of the fiscal year—in most countries that is the end of December—the defence organisation suffers from 'December fever' trying to spend all remaining money, sometimes for useless things, just to avoid cut backs for the upcoming year. Hence, the flexibility to transfer money from one fiscal year to the next creates conditions that discourage useless spending.

Controlling and Auditing

Financial Controlling

Controlling and auditing are elements of the democratic, efficient and responsible handling of a budget and, hence, have to be examined as essential elements of the financial management system. The interdependencies of financial controlling and auditing are so intense that a clear differentiation is not always possible. Control over finances is an integral part of the whole controlling system (see Figure 2 and the text describing it).

In defence management, the term auditing stands for control over the mathematical calculation of financial figures, avoidance of bookkeeping errors, black money business and corruption, avoidance of wasteful expenditures and following clear finance procedures and responsibilities. Controlling is intended to guarantee that taxpayers' money is spent efficiently and economically, in a highly responsible manner, using a running control mechanism.

The following prerequisites have to be in place to carry out financial controlling:

- Time period (fiscal years)
- Transparency, correct accounting
- Specialisation and exclusiveness, identification of budgeted amount per title/number and specific description of the purpose or the programmes

- Comprehensiveness of all expected expenditures and revenues
- Special identification of mid- and long-term planning items and the expected cost, expenses, revenues
- Seriousness, accuracy and reliability of financial data.

Internal and external controlling and auditing bodies have to be established. The following description will show a near ideal solution for controlling and audit management.[9]

The cycle of parliamentary control starts with the budget planning process and is closed with the submission of a final audit report of the Governmental Audit Office (GAO) or similar institution, controlled by the parliament. The parliament will discuss the audit findings in the Parliamentarian Auditing Committee in the presence of an Undersecretary of the Ministry of Defence or Ministry of Finance, the Budget Director and the Chief of Armed Forces. Any other responsible individuals may be directed to report to this committee. When a case is ended with grave concerns of the committee, corrective actions will normally be requested by the parliamentarians. The implementation of this corrective action may be overseen by GAO. It is important that members of parliament (MPs) and their staff are skilled in budget rules and procedures to fulfil their audit missions. Sometimes, these persons might feel that this is too time-consuming but they have always to acquire the necessary expertise as money is the most important resource. This difficult business can be supported in the parliament by experienced staff officers (with the rank of Lieutenant Colonel, Colonel, or civilian employees with corresponding expertise) who work for two to three years with the parliamentarian staff and serve as links between the parliament and the ministries. Close cooperation with the ministries and GAO is also necessary.

Political directives and personal intentions can influence the process. The audit can be blocked or steered in a certain direction by the parties or by influential MPs. Sometimes, international, national, regional, lobbyist, military, security, industrial, private or other interests cause attempts at avoiding consequent auditing. It is important to know that this does not relieve the personnel from the obligation to inform and consult the decision makers on the possible results and consequences.

The Audit Office assists the parliament in fulfilling the oversight of budgetary expenses and revenues: The Governmental Audit Office is responsible to the Parliamentary Budget Committee—and respectively to its subordinated Budget Audit Committee—on the basis of the Constitution. So it acts either on behalf of the parliament or on its own. This neutral institution can only perform its constitutional duties of auditing expenditures, revenues and savings on the basis of transparent budgets. The mem-

[9] These arrangements are derived from the German experience in controlling and audit management in defence.

bers enjoy independence like judges. They propose ideas and measures for improvement of resource management. On the other hand, persons responsible for wasted funds may be directed to compensate for the damage which they have caused by gross negligence. Thus, the audits by GAO have proved to be a very useful tool in the control of all budget and financial matters.

Internal Audit and Controlling Organisation

All principles and procedures with regard to the control and the management of the defence budget will not be very helpful unless there is a strict control performed at the end of the chain, where money is spent. This final control is executed by the Budget Directorate, different finance offices and budget and controlling branches, internal auditors and an internal revision at various levels of the organisation subordinate to the ministries. This includes the audit of correctness in bookkeeping, of cashiers and financial transactions on the lower level (e.g., a battalion) and, in addition, control of economically efficient spending at higher levels (e.g., military divisions, large agencies, schools, procurement offices and maintenance facilities). An advisory role of the auditors is always included and wanted.

The Ministry of Finance as the main state budget-holder is in a continuous auditing process to support both the executive and the parliament with the following aims and responsibilities:

- To impose a full or partial budget freeze, cuttings or increases within a fiscal year, if necessary
- To approve the expenditures in excess of budget accounts up to e.g., five million Euros (per title, subhead, project, programme) and inform the parliament
- To approve commitments for major construction projects
- To approve requests prior to new commitments to international organisations, e.g., UN, NATO, EU or for international government commitments
- To decide in cooperation with the concerned ministry how the budgets are structured and what revenues can be credited.

When a controller or a respective controlling element exists in the structure of the organisation, they are directly subordinated to the member of the organisational leadership who is responsible for resource management.

Other External Auditors

In certain cases, external auditors and consultants are asked to support defence organisations, mostly when issues of economic solutions and decisions are under consideration. International organisations such as the UN, NATO, OSCE, EU, the World

Bank and others are auditing national and international budgets in cases when they consider making a financial contribution to a country or an institution.

The Importance of Controlling and Auditing

Internal and external security and defence are among the most important issues for a country and its people and, consequently, they have to spend considerable resources to guarantee security. This process, on the other hand, has to be audited and controlled. The use of resources and the necessary auditing and controlling have to contribute to the following tasks:

- To achieve the goals of political security and the defence concept
- To keep the balance between security and other missions of a country, e.g., social life, education, economy
- To control the state budget following not only input, but also—and even more importantly—its output and outcome orientation
- To freeze, unfreeze, cut or increase parts of the budget
- To provide the 'public good security' or the product 'security' while following the principles of economy and good governance
- To fix clear regulations, including auditing, in a 'Budget Code' and other state laws and regulations
- To define responsibilities in the budgeting and the overall defence resource management process
- To provide a transparent, serious, reliable budget to the public, the parliament, the national ministries, the security forces/agencies and international partners
- To build a level of confidence and improve cooperation with partners
- To educate, train and motivate financial management personnel to fulfil the described obligations and missions.

If these prerequisites are met and certain elements exist—even if only up to a certain degree—it would be possible to establish efficient auditing and finance controlling. The finance manager and the management are at the core of these processes.

International Norms, Standards and Cooperation in Financial Management

Enormous differences exist among countries and organisations in terms of financial management, which hinders the implementation of common norms and standards. The

ministries in one country often use different procedures and tools to manage finances, without much consideration of the necessary compatibility. Very often the defence sector in a particular country is not allowed to change and adapt its financial management system if that would lead to deviation from the common state budget regulations.

In addition, international organisations such as NATO, the European Union, the OSCE, SIPRI and others apply different interpretations of the defence and security budget and planning processes. This causes a broad variation of data interpretation, increasing the risk of different international organizations using non-comparable figures that may lead to political misunderstandings. Therefore, there is a considerable need to work towards creation and/or improvement of common norms and standards in financial management.

NATO Standardisation

NATO and other international institutions are trying to develop common accounting and finance rules and regulations and to encourage nations to support this effort. Numerous NATO and non-NATO countries cooperate on financial issues. There are some NATO agreements, treaties, and bi- and multilateral memorandums of understanding—mostly based on mutual concessions and balance—that prescribe performance, supporting and financial rules between the partners in such agreements. Among the examples are:

- The use of an exercise area and facilities in a NATO member country
- Participation in courses offered by foreign countries
- Use of harbour facilities and services by naval ships, provision of support in emergencies, etc.[10]

In these cases, full costs are not included in the invoice. Most likely, only the individual consumption by the respective persons or units is reflected.

Another example of financial cooperation is provided by the European Air Group, which regulates the mutual air transportation capacity support. This Group has created a regulation for converting figures for different aircraft to avoid complicated reimbursement arrangements. The converting figures are based on the different partial costs and performance calculation of the countries and simplify the invoicing process for the finance personnel involved. In case of mutual air support, a balance record is

[10] Examples from the following agreements have been used to create this list: Germany-Russia Memorandum of Understanding (MoU) on Naval Ship Visits, Germany-France-Poland MoU on the Use of Land Exercise Areas, the multinational MoU on Eurocorps and the multinational MoU of Baltic Sea littoral states on Search and Rescue.

set up between the countries. The debt in this converting-figure balance must be settled by the country every two years, thus avoiding invoicing for each item.

International Standardisation

Other international arrangements also contribute towards commonality and standardisation in finance management. European and North American countries sponsor international organisations such as the *International* Accounting Standard Board (IASB) and the International Public Sector Accounting Standards Board (IPSASB). Their main task is to develop international financing, accounting and public sector regulations, rules and norms in order to make the financial arrangements transparent, comparable and, in some cases, feasible.

These boards have issued the following sets of regulations:

- IAS – International Accounting Standards
- IFRS – International Financial Reporting Standards
- IPSAS – International Public Sector Accounting Standards.

These standards are accepted and applied by the European Union and several Western European nations, including in their defence sectors.

The activities of IASB and IPSASB are supplemented by the International Auditing and Assurance Standards Board (IAASB) and the International Federation of Accountants (IFAC), which also contribute to the development of international regulations and recommendations for finance management.[11] All such regulations derive from good practices in financial management in the private sector and contribute to the transparency and the opportunities for international comparisons. In particular, they provide for a comprehensive picture of:

- accounting balances;
- assets, equity, property and financial statements;
- the value estimation of all assets and liabilities; and
- the whole financial situation and trends.

A relatively recent challenge is the application of the so-called 'double-entry bookkeeping' and the respective financial management and accounting system. It was developed in international free market accounting. This system has the potential to support the above mentioned financial standardisations but an intensive change of the paradigm of the accounting and finance business would be necessary.

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[11] The website of the International Federation of Accountants at www.ifac.org provides links to information on all Boards and series of standards referred to in this section.

Solutions and Recommendations for Implementing Reforms

Reforms in the defence finance sector can only be implemented in line with economic, social, labour/financial market and public administration reforms, and after taking account of the evolving security environment.

A general concept, equally and adequately representing both security and defence matters, must be developed by the government. Only few governments have predetermined such a concept. It remains more often than not a piecemeal or patchwork effort without a continuous pattern. This, however, does not relieve each one from the obligation to review his or her areas of responsibility in terms of their suitability for reform. The analysis of the finance management processes—briefly introduced here—will reveal gaps, weaknesses and the modifications required. A selected group of experts, which should be free in the way it thinks and works, should be entrusted with the task of analysing and developing options. The group can consist of both military and civilian experts, of international personnel and even business consultants. Existing, well established and familiar systems and procedures, privileges, work processes, etc., must be placed under scrutiny and should be critically but also constructively evaluated.

It is important to gain the backing of the political and military leadership, as well as of all personnel. A fully transparent functioning of the group and flow of information may contribute to getting such support. It is also important, based on my personal experience and point of view, to start with what I call a 'convincing campaign.' If reforms and changes are to be successful, the acting personnel must be convinced that the reform will bring common and individual benefits like constant salary, career prospects and no risk of unemployment. The guiding principles should be 'no criticism of the past, look forward, and improve the future.'

The creative potential of the people should also be fully utilised in the reform process as 'local experts' frequently develop outstanding ideas that can be extremely useful in the implementation of a reform. Using a 'creative improvement programme,'[12] financial or other incentives could be provided to acknowledge and motivate the work of the staff. Resources must also be provided in order to implement new options. Organisations very often make the mistake that people on staff are supposed to participate full-time in the reform process while continuing with their original duties. Moreover, the necessary material and infrastructure is missing but the reform must be implemented – for the sake of political success.

[12] Such creative improvement programs are applied in few institutions of the public sector, e.g., the Ministry of Defence of Germany, the City of Cologne and in many companies of the free market such as Siemens, Mercedes, BMW, Volkswagen and RWE.

A number of countries have already determined the gaps and deficiencies in their defence financial management systems but the resources needed to reform these systems are very limited or even unavailable. This fact, however, cannot serve as an excuse for leaders of defence and senior management not to carry out necessary reforms for the benefit of their country.

Chapter 5

Manpower Management

Jack Treddenick

Introduction

Manpower is the essential military resource. Only with high quality and motivated people can budgets and weapon systems be turned into the effective military capabilities that are required to provide for a nation's security. Managing it, and managing it well—getting the right people into the right jobs at the right time and motivating them to work hard and intelligently—is therefore the essence of military success. But, as with any situation that involves human motivation, especially in the peculiar circumstances of military life, this is a management challenge of considerable complexity.[1]

This chapter explores that complexity. It begins with an overview section that assumes that the ultimate aim of any military manpower management process is to have

[1] For wide-ranging discussions of current issues in the management of military manpower see: Curtis Gilroy and Cindy Williams, eds., *Service to Country: Personnel Policy and the Transformation of Western Militaries* (Cambridge, Mass.: MIT Press, 2006), and Cindy Williams, ed., *Filling the Ranks: Transforming the U.S. Military Personnel System* (Cambridge, Mass.: MIT Press, 2004). A more technical survey of recent research in the economics of military manpower management is given in Beth J. Asch, James R. Hosek, and John T. Warner, "New Economics of Manpower in the Post-Cold War Era," in *Handbook of Defense Economics*, Volume 2, ed. Todd Sandler and Keith Hartley (Amsterdam: Elsevier, 2007), 1076-1138. For an earlier survey along the same lines see John T. Warner and Beth J. Asch, "The Economics of Military Manpower" in *Handbook of Defense Economics*, Volume 1, eds. Keith Hartley and Todd Sandler (Amsterdam: Elsevier, 1996), 347-398.

in place a force structure that is appropriate to a nation's security needs. From that it follows that the management process has to be a kind of quasi-market mechanism, one that attempts to match the supply of military manpower to the demand for it. On the demand side, the challenge is to know just what manpower numbers and mix of skills are required. These have to be determined within some form of force planning process that considers manpower requirements simultaneously with decisions regarding equipment, doctrine and organisation. But ultimately, the demand for military manpower will be driven by four critical considerations: the state of the international security environment; the perceived utility of military force in that environment; the technology of warfighting; and, as always, by issues of affordability. These factors and their implications for manpower requirements are discussed in the third and fourth sections of this chapter.

On the supply side, the challenge is to manage a lifecycle process of recruiting, training, promoting, deploying and finally releasing the right numbers of individuals such that there is a dynamic synchronisation of the distribution of available numbers and skills with the distribution of numbers and skills actually required to support the force structure. The fifth section of this chapter examines this process in detail. In particular, it addresses the issues that manpower managers face as they attempt to manage what is generally quite an inflexible process in the face of shifting demographics and changing labour markets. The sixth section explores some ideas for dealing with these issues through changing manpower supply processes to make them more flexible and hence more responsive to military requirements. A concluding section summarises the need for manpower management change and reflects on the factors that will determine how far and how fast that change might go.

Manpower Management: An Overview

In concept, the purpose of manpower management is quite straightforward: it is to have in place at the current moment the right numbers of people with the right mix of skills, experience, ages and rank levels necessary to sustain the required force structure. The challenge arises from the fact that required force structures are constantly evolving and transforming themselves in response to changes in the security environment, in military technologies, in national ambitions and in financial constraints. Manpower management systems, on the other hand, typically require long lead times to recruit, train, deploy, promote and release individuals in order reshape the manpower profile to satisfy force structure needs. And at each of these stages they must deal with intricate problems of human motivation.

Figure 1 presents a stylised overview of this problem. A nation is presumed to respond to the threats and opportunities offered by the international security environment by formulating some form of national security strategy.

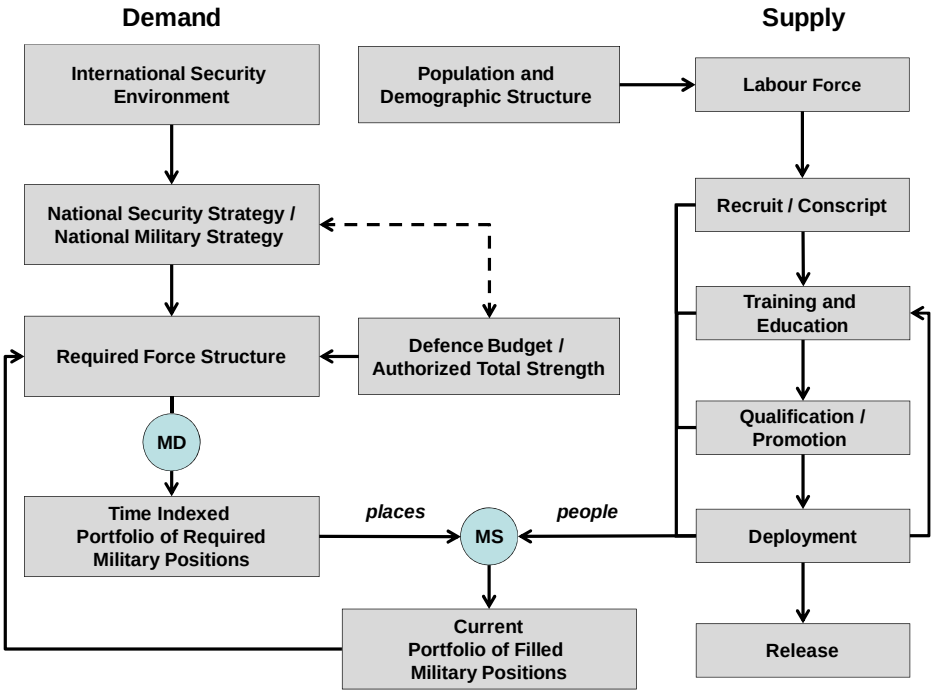

Figure 1: Managing the Military Manpower Portfolio.

As part of that broader strategy it will formulate a military strategy that reflects its perception of the utility of military force in dealing with those threats and opportunities. The force structure required to support that strategy will then drive the demand for military manpower, both in terms of numbers and particular skills required. But force structures and manpower cost money, and ultimately what is required will be shaped as much by budgetary considerations as by strategic need, perhaps even more so. In addition to financial constraints, manpower requirements will also be constrained by legal and administrative limitations on total force size imposed by governments and parliaments. It may not be the case, however, that financial and force level constraints actually match expressions of national security need. As a result, the required force structure that finally emerges is always a compromise between desirability on one hand and affordability on the other. In practice, it is the outcome of continuous jousting between political and bureaucratic elements in the defence ministry on one side and those in the economic and finance ministries on the other.

Within the constraints imposed by the political process, defence planners and managers make force structure choices as they decide upon the allocation of re-

sources at several different levels: between manpower and equipment, among the different military services, among different activities within each service, and finally among different types of manpower and equipment within each activity. But, again, force structures are not static; they are continually evolving in terms of equipment, doctrine and organisation, and hence the demand for manpower will include a dynamic element. That is, there will be a time-path for evolving military manpower requirements, both in terms of numbers and in terms of the required manpower mix. And even with the most careful planning, there will always be shocks to the system in the form of unanticipated budgetary changes, mandated increases or decreases in total force size, politically motivated equipment decisions, organisational restructuring, redeployments and simply different ways of doing business. Importantly, then, this manpower requirements portfolio has to have a time dimension such that it can depict evolving manpower requirements and provide critical lead time information to the suppliers of that manpower. Ideally, it would also have some built-in flexibility for dealing with unexpected shocks. The first major task of manpower management, indicated as MD in the diagram, is to process all these factors and arrive at a time-indexed portfolio of manpower requirements across the entire planning horizon, where each item, each place, in the portfolio is carefully defined in terms of required skills, experience, age and rank level. More simply, it must identify just exactly what places are going to have to be filled and when.

The second major task involves providing the actual people with the right mix of skills, experience, ages and rank levels to fill the required portfolio. This is the focus of the supply side of military manpower management, marked as MS in Figure 1 and shown as a process on the right hand side of the diagram. The task here is to decide on the number of individuals to recruit, promote, qualify and release each year. In some respects this process is of course no different from that of any other public or private institution that has to manage its labour force. But there is one crucial difference. Militaries, unlike most other institutions, are relatively closed systems. They generally take in new personnel only at the basic entry level and make no provision for lateral entry at higher levels, the basic justification being that only in this way can the unique mores, ethos and sense of corporateness necessary to the unique nature of military employment be properly cultivated. Such systems are characterised by strictly bounded entry age groups and strictly uniform career paths, usually with some explicit form of up-or-out system—promotion or release—that extends until retirement. Promotion itself depends upon the completion of well defined tasks, including progression through milestone educational and training stages, command responsibility and a broad experience gained through frequent changes of assignment and location. By design, manpower systems of this sort encourage rapid turnover of personnel, particularly at the lower levels, and therefore keep the force relatively young and vigorous.

Continuous attrition at higher levels ensures that there are appropriate size cohorts at each level in the command hierarchy and that there is a steady flow of openings in that hierarchy to motivate younger individuals to seek promotion. Closed manpower systems of this kind thus offer several important advantages to military organisations. Nevertheless, whether they can offer the flexibility required to meet changing demands for military manpower in an age of strategic uncertainty on one hand and shifting social and economic structures and changing labour markets on the other has to be examined.

The Security Environment and the Utility of Military Force

Changes in the international security environment are altering the way nations employ military force and hence their needs for military manpower. Globalisation, whose roots lie in information technologies, has created a much more decentralised world, one where the power of the state has seemingly diminished relative to transnational actors and where identity politics, the politics of tribe, ethnic groups and religion, have altered the system of states within which international relations have traditionally been conducted. At the same time, globalisation has given people in underdeveloped regions the ability to see and understand the disparity between their circumstances and those of the developed world, with all that that can suggest for envy, discontentment, frustration and destabilisation. The result is a much more complex, less stable and more unpredictable international security environment.

Within this complexity, growing economic interdependence, on one hand, has reduced, but certainly not eliminated, the likelihood of general war among the major powers. On the other hand, however, the end of the Cold War, which led to the relaxation of constraints on the behaviour of client states, and the collapse of the Soviet Union, which led to major changes in national alignments, have seemingly increased the scope for regional conflict. Beyond that, globalisation has also created both incentives and means for non-state actors to undermine international stability through terrorist attacks, insurgencies and other forms of non-conventional warfare, including the potential use of weapons of mass destruction. It has also afforded them potential sanctuary within so-called failed states or failing states, states which, because they either cannot or will not effectively participate in the globalisation process, have lost economic and political coherence.

What seems to be emerging is the implication that for most countries, other than for those confronting local territorial issues, there is no external conventional military threat. Rather the security of individual nations is indirectly bound up in a general international stability, a stability which can be threatened by regional conflicts, by the mere existence of failed or failing states, and possibly by states that might have an interest in destabilising the international equilibrium or who harbour non-state organisa-

tions with such interests. If international stability is to prevail, such threats will have to be managed through diplomatic, economic and political means if possible but through military means where necessary. At a minimum, military force will generally be required to provide the immediate security and stability conditions necessary for non-military means to be effective. But military force, in today's types of operations, though necessary, will rarely be sufficient to establish security, stability and functionality. Military activities in these operations will have to be augmented and integrated with other agencies, national and international, that can provide the aid and reconstruction efforts necessary to ensure that failed states become stable, functioning entities and thus less threatening to international stability.

Importantly, operations of this type that generally do not directly threaten the vital interests of other states require multinational participation, if for no other reason than to provide legitimacy to the effort, but also because few states are either willing or able to take on such burdens single-handedly, especially when nations' vital interests are not directly threatened. Recent history seems to suggest that the most likely operational employment of military forces for the typical country in the 21st century will indeed be in such multinational operations. If true, then there are significant implications for manpower requirements. First of all, these types of operations are labour-intensive and will place great strain on the forces of small and medium countries to contribute in an effective way. Sustaining that contribution will be even more difficult. This burden can be large, especially when most operations can be expected to last for long periods of time, requiring nations to provide for the regular rotation of troops. Moreover, militaries participating in these types of operations will have to be expeditionary; that is, they will have to have the means to get their forces to the areas of concern and be able to sustain them once they are there. And once there, these forces will require the training and technological capability to be able to work within the command and control network of the multinational force as well as to coordinate their activities with the local population and with the myriad of international agencies that can be expected to be part of the operation.

If stabilisation operations of this kind are to be the norm in coming decades, and it appears at this juncture that they will be, then a second major implication for force structuring and manpower requirements arises out of the drastic revision that has to be made about the very way we think about war. Success in these types of operations, where firepower can often be of little use and may even be counterproductive, requires not so much the defeat of an enemy force as it does the winning over of populations to ideals of government and international behaviour that contributes to domestic political integrity and ultimately to global stability. This transforms the entire concept of what we mean by military victory and with it the roles and operational methods of militaries necessarily have to be dramatically reinvented. Troops involved in stabilisation operations,

for example, will have to be capable of dealing with combat operations, peacekeeping and humanitarian support all within the same operation, often within a small geographical area and often within the same day. In this context, the operational environment can evolve rapidly, requiring that small units have the training, the flexibility, the correct information and especially the leadership to react quickly and effectively to changing circumstances in a complex, multi-dimensional environment.

While many countries will be persuaded that multilateral stabilisation operations should be the essential focus of force structuring and manpower planning activities, they cannot of course afford to ignore the possibility that their forces may be required for other employments, ranging from domestic humanitarian assistance at one end, through sovereignty protection, to major conventional war, or worse, at the other. The potential return of state-based threats is an obvious case in point as the relative political, economic and military fortunes of nations continuously shift, especially on a regional basis. Moreover, in an era where information technologies and computer networks play such a critical role, not only in warfare, but in the functioning of all modern societies, cyber warfare, the remote attack upon domestic computer networks and the defence of those networks, is becoming still yet another focus of military activity. Prudence will require that provision is made in some minimum way for all of these diverse possibilities. The difficulty is that each of them requires different technologies and different mixes of manpower and equipment. Some will require more high technology weapons systems, others more manpower, but, critically, both will require military personnel of exceptional qualities.

The Demand for Military Manpower

Every country will respond differently to these emerging notions of security. Each will therefore have its own unique approach to creating military capability, one that will be shaped by its history, its culture, its level of economic development and its geographical neighbourhood. Accordingly, every country will also have its own approach to determining the size and composition of its armed forces. But beyond specific particularities, there are certain general considerations that cannot be avoided in any force structuring exercise. The most fundamental of these has to be that any manpower strategy has to be clearly aligned with some notion of a national military strategy, and through that with its security interests. Without that linkage, manpower management has no direction and makes little sense.

The required force structure logically begins with the nation's security strategy, which in turn emerges from some sense of national values and interests, the perceived threats to those interests, the nation's geopolitical situation within the international security environment and, critically, its international ambitions. These considerations will (or at least should) shape just what roles the nation's armed forces will be expected to

perform and hence will be the primary determinants of the required force configuration and size. But other factors enter the equation. Foremost amongst them will be considerations of affordability. The size of the defence budget and, equally importantly, how that budget is spent, will place strict bounds on the feasibility of any proposed force structure. Other non-financial constraints may also be imposed, including mandated ceilings on force size, and on the size of specific components within the total force structure. Within these constraints, the demand for military manpower will then be determined, first by considerations of what specific military capabilities are to be acquired, and on what scale, and secondly on how these capabilities are to be produced (that is, with what combinations of manpower and equipment).

Financial Constraints

Effective defence budgeting requires the achievement of some balance among personnel, operations and maintenance, and investment expenditures. When, for example, increases in pay scales and other personal benefits exceed increases in the total defence budget, they must be compensated for either by reductions in personnel numbers or by reductions in expenditures for equipment and for operations and maintenance. If personnel numbers remain unchanged and expenditures for equipment procurement are reduced to provide budgetary room for the rise in personal costs, then imbalances in the mix of equipment and personnel inevitably take their toll in terms of military capability and performance. The retention of older equipment can intensify this imbalance as the rising cost of operating and maintaining it further squeezes the budgetary capacity to obtain new equipment. These pressures require defence planners to make difficult choices about the distribution of personnel, equipment and operational expenditures. Where budgets cannot sustain rising personnel and equipment costs without seriously distorting military capabilities, then the issue of what the military can reasonably be expected to achieve with the resources at hand has to be reconsidered, probably with a view to drastically revising the desired force structure into something more affordable, with the inevitable result that the appropriate numbers and mix of skills in the military will change significantly. Manpower management must be capable of foreseeing and developing the capacity to adjust to such pressures.

Non-financial Constraints

In addition to financial constraints imposed by defence budgets, manpower managers and force planners must work within government or parliamentary imposed ceilings on total force size. The effect of these ceilings is to further reduce the flexibility available to planners and managers in determining the optimal force configuration that a given budget will support. It may also have the perverse effect of encouraging force planning to focus on sizing the force to meet the manpower ceiling rather than making the nec-

essary tradeoffs between personnel and equipment to arrive at the most effective force structure available for the money. The result is that force structures become severely distorted as manpower numbers are maximised while expenditures for new equipment are reduced to what is left over after personnel costs have been covered.

Technology

Military technologies have changed dramatically over recent decades. This is especially evident in the increasing emphasis placed on the use of information technologies and networking but also on weapons systems with increased speed, stealth, precision and lethality. To the extent that militaries attempt to capitalise on these technologies, they will necessarily transform the way they operate, the way they are organised and the way they are manned. From the viewpoint of manpower planning, this essentially means continuous rebalancing in the skills and experience mix required in force structures. As capital is increasingly substituted for labour, it may also mean that manpower numbers may be reduced without compromising capability. Whether they do or not will of course depend upon the types of missions militaries can be expected to undertake in the future; some missions by their very nature will continue to require large numbers of personnel, even though the forces involved in them may be increasingly better equipped. Regardless of its effects on numbers, however, what is clear is that advances in military technology will unquestionably demand improvements in the quality of military manpower.

Qualitative Changes: The New Model Soldier

The changing nature of war, driven by technology and the volatile international security environment, has critical implications for the qualifications, training and education of military personnel. The skills required both for low intensity stabilisation operations and high intensity, network-based warfare will differ significantly from those required in the types of warfare that characterised the last century. If, as many expect, multi-national expeditionary stabilisation missions are becoming the norm for this century, then the ideal soldier will not only be a skilled and aggressive fighter, he will also have to have the administrative abilities and the cultural awareness to be an effective diplomat, civil administrator and policeman, and he will have to combine those abilities with sensitivity, patience and forbearance. These are virtues not normally associated with soldiers in combat situations, but necessary nevertheless, first to deal with local populations caught up in the confusion of conflict and rapidly shifting allegiances, and secondly to deal with an intrusive media that can quickly turn even a minor action into a major in-

ternational political and diplomatic crisis.[2] He will also be skilled in languages, both those of the country in which he is deployed and in the language of multi-national operations, usually English. He will also have to have the training and education levels that permit him to act with entrepreneurial initiative in a wide variety of different circumstances, often without adequate information and often without direction from higher authority. Enormous pressures and responsibilities will be placed on young leaders and they will have to possess that most necessary of all military virtues, the ability to exercise judgment under uncertainty and extreme stress. Quite obviously then, experience, judgment, initiative and technical proficiency are in the ascendancy as desirable military virtues. Youth and vigour remain important but their significance, at least relatively, is diminishing. This will have a profound effect on the composition of force structures and could well alter the fundamental dynamics of manpower supply.

The Supply of Military Manpower

On the supply side the task of manpower management is to ensure that the manpower requirements generated in the force planning system are met, both in terms of numbers and in terms of qualifications. In practice this means carefully synchronising the flow of manpower through a complex and interdependent system of recruiting, training, promotion, deployment and release activities. Failure to manage this synchronisation correctly can result in manpower structures becoming seriously imbalanced, with shortages in available numbers, skills, rank-levels and age levels emerging in some areas and surpluses in others. Both represent a misallocation of scarce military resources and both can be seriously damaging to the achievement of military capability. Given the highly interdependent nature of military structures, shortages in one area, for example, can potentially impede the effective functioning of the entire military organisation. Surpluses can be equally debilitating as they represent unnecessary personnel expenditures that could be more productively used in the procurement of new equipment or the repair and maintenance of existing equipment.

Managing the synchronisation of manpower flows becomes even more problematic when force structures change. The complex cause and effect relationship that characterises the system means that even a slight change in requirements can reverberate through the system, becoming amplified and creating serious repercussions throughout the entire force structure. In such circumstances misinformed decisions can have

[2] This phenomenon has given rise to the notion of what has been called the "strategic corporal," the low ranking soldier whose actions can influence not only the immediate tactical situation, but the strategic situation as well. See: Charles C. Krulak, "The Strategic Corporal: Leadership in the Three Block War," *Marines Magazine* 28, no. 1 (January 1999), www.au.af.mil/au/awc/awcgate/usmc/strategic_corporal.htm.

unexpected and enduring consequences. For example, general reductions in force size may be mandated for budgetary or strategic reasons. These can be difficult to achieve, especially when they must be accomplished within a tight time frame. But taking a more passive and measured approach by allowing the reduction to take place through normal attrition as members retire or seek voluntary release while at the same time curtailing recruiting can in fact lead to severe imbalances as the force ages, suffers skill shortages and becomes rank-heavy. Without careful management, the skill, age and rank 'blocks' that emerge from such approaches, and which can cause serious misallocations of total defence resources, can take decades to eliminate.[3] More proactive management of such reductions (or increases) would require varying not only recruiting rates but also training, promotion, deployment and release rates to effect more balanced changes. But doing so requires a highly responsive manpower management system, one with adequate information and sufficient decision-making flexibility to make the necessary choices in a timely and effective manner. It also requires some understanding of the basic dynamics of manpower supply.

The Dynamics of Manpower Supply

In practical terms, the basic challenge is to know, for each particular manpower category, how many persons to recruit, how many to train, how many to deploy and how many to release in each year over the planning horizon in order to sustain the desired force structure. To achieve this goal, manpower planners have to know not only the time profile of force structure requirements but they should also have some accurate idea of attrition rates, that is, the proportion of the force, or any of its particular components, that can be expected to leave at any given point in time.[4] Normal attrition results from the release of members whose contractual engagement periods (or conscription obligations) have expired or who reach the age of retirement. Unlike attrition in civilian employment, however, where individuals may freely leave their employment at any time, normal military manpower attrition rates, or their complement, reen-

[3] Villani provides an interesting example of this problem in his description of Italy's complete overhaul of the entire personnel structure of the armed forces that followed the decision to move from a conscript based force to a professional force. The transition period from the passage of the initial law to the attainment of a new steady state force structure was expected to last for 20 years. During this time, at least initially, there would continue to be an excessive number of officers and non-commissioned officers, despite the fact that some had been given early retirement and others – employment with other government departments. See Domenico Villani, "Recruitment in a Period of Transformation: the Italian Experience," in *Service to Country: Personnel Policy and the Transformation of Western Militaries*, ed. Curtis Gilroy and Cindy Williams (Cambridge, Mass.: MIT Press, 2006), 381-396.

[4] The section is based partly on concepts discussed in A.R. Smith, "Defence Manpower Studies," *Operational Research Quarterly* 19, no. 3 (September 1968): 257-273.

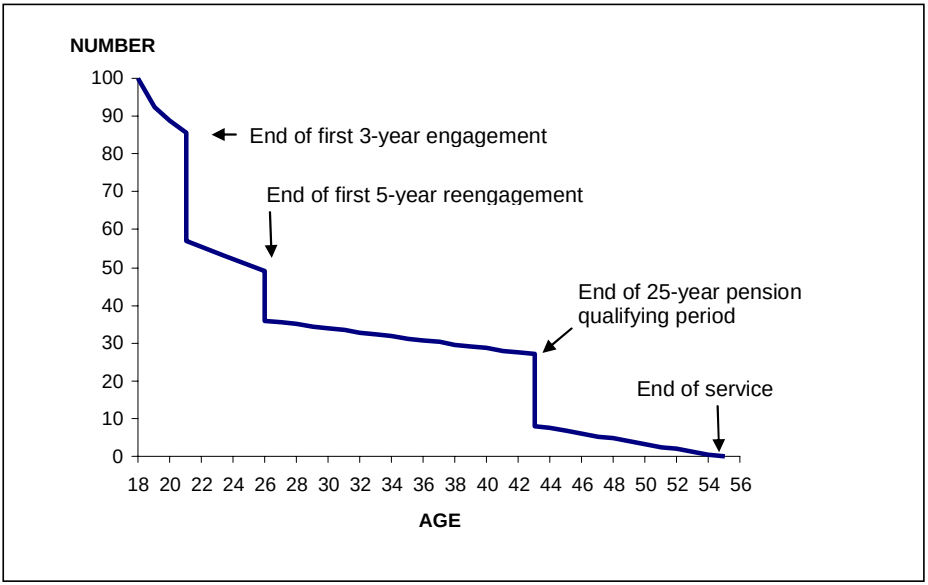

Figure 2: Hypothetical Attrition Profile.

gagement rates, are reasonably stable and predictable, especially in the aggregate as military persons are generally compelled by law to complete their engagement periods. Nevertheless, normal attrition rates tend to vary with age, experience, training, occupational category and rank, and therefore, to be useful in planning manpower requirements, they need to be specific in terms of each of these attributes. In addition to this normal attrition, unexpected attrition can also occur for a number of reasons, including voluntary release through purchase or on compassionate grounds, for death or injury, for discharge on grounds of unsuitability or criminal activity, and so on. While this type of attrition is more random than normal attrition, it can be expected that it will include some statistical regularity and thus some predictability should be possible. Good information on these attrition rates, both normal and unexpected, is the basis of effective manpower planning and thus an essential management tool has to be the availability of appropriately detailed and continuously updated personnel databases.

Combining normal attrition and unexpected attrition rates can provide an attrition time profile for each rank and occupational category that indicates how the inventory of personnel in each of these categories changes over time. As an example, Figure 2 indicates a hypothetical attrition profile for 100 recruits within a manning cycle that includes an initial three-year engagement period, a possible follow-on 5-year reengagement period, a period of indefinite engagement, a 25-year pension qualifying period and a compulsory retirement age of 55. Normal attrition thus occurs in this example at the third, fifth, and thirty-seventh year of service. The pension qualification at twenty-

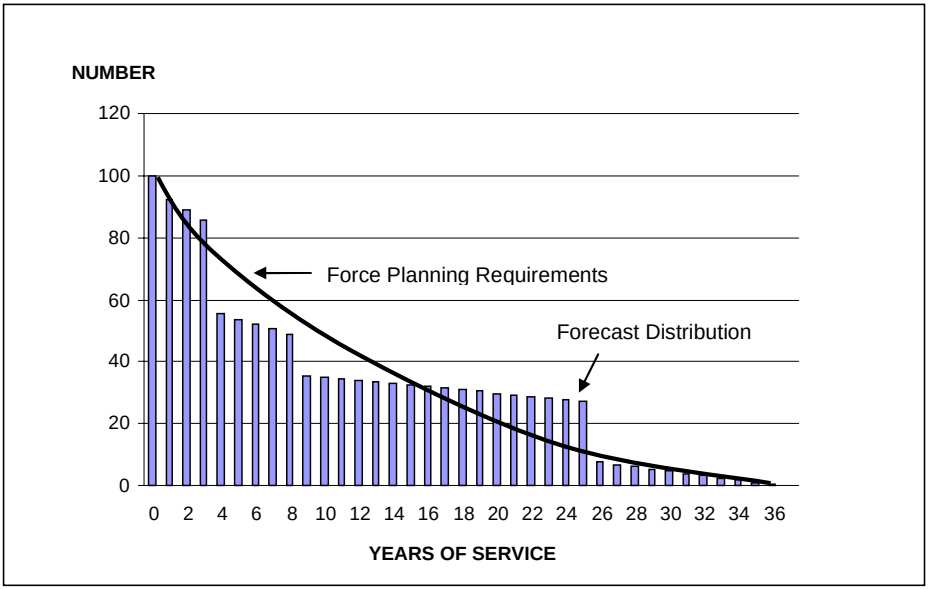

Figure 3: Hypothetical Steady State Distributions.

five years of service would also be expected to induce a sharp, discontinuous number of departures. Unexpected attrition will take place between these milestones and is represented in the diagram by trend values, with steeper trends occurring within the initial engagement periods, becoming less steep as pension qualification approaches and perhaps becoming steeper again as the compulsory retirement age approaches.

This attrition profile also provides some insight into the steady state population that can be achieved through a particular rate of recruitment. For this hypothetical example, Figure 3 indicates that a continuous annual intake of 100 recruits in a specific occupational category would eventually generate a steady state population of approximately 1200, as 100 18-year old recruits annually compensate for 100 leavers at various other age levels. The steady state annual exit rate is therefore 8.3 percent. In terms of years of service, this steady state population would have a distribution that included 100 individuals with no experience (recruits), 93 with one year of service, 89 with two years and so on. The average age of this population would be approximately 28 years.

Comparison of this steady state population with the forecast of numbers required to sustain the planned force structure provides estimates of the adjustments that need to be addressed through recruiting, retention, promotion and release programmes. Figure 3 provides an example. Ideally, the forecast distribution should match the force planning requirements. In this case, however, significant shortages emerge in the period between 4 and 14 years of service while surpluses appear in the period between

17 and 25 years of service. However, because military manpower systems are generally closed systems, they take in few recruits above the basic entry level and hence are unable to fill downstream shortages with lateral recruiting. Higher rates of initial recruiting would of course eventually cover these shortages but they cannot on their own resolve the underlying mismatch between requirements and availability since they, in turn, would create unwanted new surpluses or intensify already existing surpluses. Similarly, militaries are generally contractually obligated to keep individuals in the surplus categories. Involuntary separation decisions could of course be used to eliminate these surpluses but their overuse, an unsatisfactory management practice in itself, could create morale-destroying issues of breach of contract that might have wider implications for recruiting and retention in general. Without changes in the attrition profile, therefore, these types of shortages and surpluses are effectively built into the force structure. It follows then that the continuing challenge for manpower supply management is to find a set of incentive structures that will produce an attrition profile that matches the forecast force distribution to the required force distribution. This is challenging enough but, as noted, manpower managers will also have to cope with force planning requirements that themselves are becoming increasingly volatile as militaries focus on new types of operations and new types of military capabilities. In terms of Figure 3, this means that the requirements distribution itself is changing and shifting through time, suggesting that the management of manpower supply, with all of its internal challenges, must also deal with a moving target.

Recruiting the Force

Given the time profile of force requirements and good estimates of attrition rates, the determination of initial recruiting targets is reasonably straightforward.[5] Indeed, mathematical models are widely employed in defence ministries to estimate recruiting requirements.[6] However, as discussed, forecasts of these types are critically dependent on the assumed attrition rates. And while these rates generally tend to be stable, they can and will change because of specific changes in conditions of service, including pay and other benefits, education opportunities, the intensity of deployment rotations, especially as these are compared against opportunities elsewhere, and more generally

[5] For the basic arithmetic of calculating the enlistment requirement for a steady-state force see John T. Warner and Beth J. Asch, "The Economics of Military Manpower," in *Handbook of Defense Economics*, Volume 1, ed. Keith Hartley and Todd Sandler (Amsterdam: Elsevier, 1996), 350.

[6] For a dated but comprehensive overview of the use of military manpower planning models see David L. Jaquette, Gary R. Nelson, and R.J Smith, *An Analytical Review of Personnel Models in the Department of Defense*, Report prepared for Defense Advanced Research Projects Agency (Santa Monica: Rand, 1977).

because of larger and unpredictable social and economic changes. As a result, mathematically generated forecasts of recruiting numbers must be interpreted on the basis of solid experience with managing military manpower.

Having decided on numbers and required qualifications, the next stage in the manpower supply management process is to decide on the source of the required new intakes. The major potential sources are conscription, where it exists, and more commonly the recruiting of untrained manpower. In both cases the recruiting pool is predominantly made up of secondary level school-leavers. Other potential sources, though rarely exploited, might include the recruiting of partially trained manpower, which would include persons possessing skills required by the military, usually technical or administrative skills, but who lack military training, as well as fully trained manpower, which would include persons who have both the necessary skills and previous military service. The latter category could also include persons currently serving in the military but who could be retrained and transferred to other occupational categories.

Whether a particular country uses conscription as a major source of untrained manpower depends on a wide variety of factors, including its culture, its history and possibly its geostrategic position, especially if it has a need for large mobilizable forces for territorial defence. However, it will also depend upon perceptions of the comparative cost-effectiveness of conscript and voluntary forces. The single most important advantage of conscription is the availability of a reliable supply of manpower at apparently low cost, at least to the military. It has other apparent advantages. It can, for example, be an effective tool of nation-building and social cohesion, especially through the notion of shared sacrifice. It can also be an effective recruiting tool for the professional armed forces by introducing young people to the opportunities associated with military service.[7]

But conscription also has its disadvantages. For one thing, though it is certainly not always the case, conscripts can be less than enthusiastic about military service and hence might not make the most effective soldiers. For another, the relatively short periods they are normally required to serve is probably inadequate to provide the skills and experience necessary to deal with the complexities of modern warfare, not only in the use and maintenance of high-technology weapons systems, but also in the types and variety of missions that are currently demanded of military forces. Moreover, the continuous turnover generated by conscription generates high and costly demands on training resources, placing in considerable doubt the argument that it really is a low-

[7] Gerhard Kümmel suggests that for Germany in recent years about half of career soldiers and many short- and long-term volunteers have been recruited from those serving as conscripts. See Gerhard Kümmel, "An All-volunteer Force in Disguise: On the Transformation of the Armed Forces in Germany," in *Service to Country: Personnel Policy and the Transformation of Western Militaries*.

cost source of manpower. But manpower may still appear to be relatively cheap, especially in budgetary terms. Budgets, however, fail to recognise its true opportunity cost, above all in terms of its alternative use and value elsewhere in the economy. The burden of this loss is borne by conscripts themselves, since they are effectively being taxed in the amount of the difference between what they could earn in the civilian economy and the usually very low wages they are paid as a conscript.[8]

Conscription may also be potentially damaging to force structuring. With abundant, apparently cheap labour available, for example, commanders may have little incentive to modernise and may well be encouraged to substitute labour for capital. As a result they may end up adopting large, labour-intensive forces when the apparent direction of contemporary military organisation would seem to be towards smaller, more efficient and highly mobile forces. While acknowledging its potential social contribution, it would appear that conscription is inconsistent both with the requirements of modern war-fighting and with the realities of modern economies and societies. It would appear, then, that preferred solutions to meeting military manpower requirements lie in the direction of voluntary enlistment, with the aim of generating a skilled, experienced and longer-service professional force.

The decision to enlist voluntarily is a highly personal one and involves considerations beyond those normally associated with occupational choice. Young people, for example, may be looking for adventure or simply to do something different with their lives before embarking on further education or a civilian career. They may also be inspired by the prestige of a military career, by patriotism, by the camaraderie of military service, and, for some, by the attractions of a disciplined life. But the decision will also be based on normal considerations of pay and other benefits, training and educational opportunities, working conditions and pension rights. And given the peculiarities of military life, there will be an interest in individual and family support arrangements, including the availability of housing, schooling, medical and recreational facilities. The enlistment decision will of course also include consideration of the perceived disadvantages of military service, including the discipline, the restriction on personal free-

[8] A more comprehensive comparison of the social costs between conscription and voluntary recruitment would include the relative distorting effects of taxes required to pay for each. Because the supply curve or enlistments is assumed to be rising, the marginal cost of each additional enlistment exceeds what he is paid and hence the total cost and deadweight tax loss of voluntary forces rises exponentially. However, because the supply curve for conscript forces is horizontal, additional personnel are added at a marginal cost equal to the conscript wage and hence the total cost and deadweight losses associated with conscript forces rise only linearly. As a result, for the same size force, voluntary forces imply higher deadweight losses than do conscript forces. See Asch, Hosek, and Warner, “New Economics of Manpower in the Post-Cold War Era,” 1122.

dom, the discomforts, the frequency of deployments and the potential dangers to life and limb.

These advantages and disadvantages of enlistment will be weighed against those of the alternative choices available to potential recruits. In the recruiting age cohort these alternatives would generally be either to continue with their education or to seek employment in the civilian economy. In this cohort, continuing with education usually means completing secondary levels and then subsequently either entering the workforce, continuing on to post-secondary levels, or possibly enlisting. Those who do not complete secondary school will either enter the civilian labour force or enlist. And while this group has historically been an important source of recruits, given the increasing military demand for educated manpower, it may no longer be able to provide sufficiently qualified candidates. In any event, given the rising wage premiums paid in the private sector to university graduates, increasing numbers in the recruiting cohort are completing secondary school and going on to higher levels of education rather than entering the workforce or enlisting in the military. Those that do continue their education are at the same time also acquiring qualifications that would make them less inclined to think of enlisting upon completion of their studies, especially since enlisted compensation is rarely competitive with the salaries typically earned by university graduates. This difficulty is compounded by the increasing convergence of military and civilian technologies, especially information technologies, which creates a demand within militaries for the same types of persons who are highly sought after in civilian labour markets.

The supply of military manpower, whether based on conscription or voluntary enlistment, is conditioned as well by the size and age distribution of a nation's population. Many countries are currently experiencing significant shifts in these distributions. As birth rates fall and life expectancies increase, populations are aging and in some cases even beginning to decrease. While less of an issue in immigrant countries such as the United States, Canada and Australia, many countries, especially in Europe, are seeing diminishing numbers of persons in the age cohorts from which military recruits are normally drawn. When it is considered that significant proportions of these diminishing age groups will be unsuitable for military service, for medical or other reasons, that an increasing number of them will go on to postsecondary education and that other sectors of the economy are competing for the same type of individual, the challenge of recruiting adequate numbers of qualified individuals becomes clear. It becomes even more difficult as the military becomes less visible as an important institution in national life or, worse, where it may not enjoy particularly high public esteem.

It might appear that the implications of demographic change for military recruiting are exaggerated, especially with the trend to smaller and more professional forces, where turnover can be expected to diminish significantly. Annual recruiting require-

ments will consequently diminish and the expectation would be that they will continue to represent a very small, possibly decreasing fraction of the relevant recruiting age cohort, and hence easily manageable. However, this can be misleading. Consider a hypothetical example based on German data. Assuming that the relevant recruiting age group can be approximated by the statistical age cohort 15 to 24, then Germany will see its prime recruiting base diminish from 9.4 million in 2008 to 7.6 million in 2025 and to 7.1 million in 2050.[9] If, for illustrative purposes only, Germany is assumed to eventually shift to an all volunteer force at its current strength of approximately 250,000 and assuming conservatively that the steady state exit rate is 10 percent—it could well be higher—then in the year 2050 Germany will require a recruiting success rate of approximately 3.5 per thousand members of the relevant age cohort. Evidence suggests, however, that plausible success rates for recruiting in Europe are currently closer to 2 per thousand.[10] Applying that rate to the German cohort suggests a maximum feasible force size of only 142,000.

The answer to the recruiting challenge necessarily lies in a combination of efforts to exploit the non-pecuniary interests of potential recruits in a military experience and at the same time to provide pay and other benefits, including potential educational and career opportunities that are sufficient to compensate for the higher pay and other benefits of civilian employment or continued education. In other words, the military has to ensure that it is clearly seen as a desirable employer. And the critical time to do this is when individuals leave secondary school. Once they are settled in civilian careers or university studies few individuals are prepared to consider enlisting. Volunteers at this critical point may be persuaded to defer education by the promise of education subsidies at the end of the enlistment period or they may be offered specific training and experience in a particular field in preparation for post-enlistment employment. Other schemes would see volunteers, especially officer candidates, offered immediate university level programmes, in either civilian or military universities, in exchange for a commitment to a future period of service. Still other incentives would include the payment of enlistment bonuses, the choice of post-training assignments, or guarantees with respect to service component or geographical area. But where the military does not enjoy wide public recognition, or even esteem, recruiting must go beyond simply devising attractive pay and educational schemes and must be supported by broad

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[9] United States, Census Bureau, Population Division, *International Data Base*, www.census.gov/ipc/www/idb/country/gmportal.html#DI.

[10] Rickard Sandell, "Coping with Demography in NATO Europe: Military Recruitment in Times of Population Decline," *Service to Country: Personnel Policy and the Transformation of Western Militaries*, 78. Sandell finds exit rates in the range of 11-13 percent for Spain, the United Kingdom and the Netherlands.

public information campaigns that bring the military to national attention and in the most beneficial light.

Retaining the Force

After initial recruiting, the major task of manpower management is to sustain the force structure through retention of the appropriate numbers with the appropriate qualifications. In the first instance this effectively means managing attrition rates such that both shortages and surpluses of personnel are avoided in each of the rank, occupation, qualification and experience categories. Manpower managers must be continuously focused on incentive strategies that encourage retention when shortages appear and early departure when there are surpluses. Ideally, the key to doing this would be a manpower management system that is able to quickly and effectively reconcile the interests and preferences of the individual with those of the military as an institution. Within such a system, the individual would be motivated by pay, reenlistment bonuses and other benefits, including the non-pecuniary benefits of military service, relative to those available to him elsewhere, to opt to remain in the military as long as there remains a demand for his services. When those services are no longer required, he must be motivated by pay comparisons and other benefits, including separation payments, to leave. To be effective, such a system would also be structured to retain only the most competent individuals through rewarding individual performance and encouraging the less competent to voluntarily leave.

Managing attrition rates depends to a great extent on the particular enlistment term structure in effect. One such structure, for example, might include a series of fixed, renewable enlistment periods, say of three or five years each, which carry on from initial recruitment through to retirement. Another might include one or two short initial enlistment periods, again of three or five years for example, which are followed by an enlistment period in which the service member can continue to serve indefinitely but where he has the right to resign at any time, usually after having given some minimum period of notice. Or, indeed, a mix of structures may coexist, with some members engaged on the periodic reenlistment model and others on the indefinite or 'tenure' model. Each type of structure has advantages and disadvantages for both the military and the individual. In the reenlistment model, the military has the clear advantage of being able to shape the force distribution in terms of age, occupation, experience, qualification, rank and performance level almost on a continuous basis by deciding to accept or reject reenlistment applications. But that advantage is clearly dependent on the readiness of individuals to apply for reenlistment. The intangibles such as patriotism, shared sense of purpose, group solidarity, leadership opportunities and a sense of calling clearly remain of the highest importance in motivating individuals to continue with a military career, but reenlistment bonuses and concessions with regard to future

assignments, locations and education and training opportunities will also be important management instruments in convincing them to do so.

The clear disadvantage to the individual of the reenlistment model is that it creates some concern for job security, a consideration that may not be overly important for younger members but becomes increasingly important with years of service.[11] With the uncertainties of continuing employment, it may be that highly qualified individuals may forego reenlistment in favour of more secure long-term employment elsewhere. The tenure model avoids this problem. It also has the advantage of increased predictability for the military. But it has the distinct disadvantage that it can lead to the retention of individuals who may not perform to their full potential and who can only be released with great difficulty. The actual choice of an enlistment structure will depend on a careful trade-off among all of these factors but a model that included, for example, a sequence of two initial enlistment periods, say a shorter one of two or three years and a longer one of five years for selected individuals, who in turn could be further selected for an indefinite period of employment, would seem to offer a number of advantages. For one thing it would provide the military with ample time to identify the most promising individuals and at the same time make it easier to retain those individuals through the ability to offer them long-term employment. It would also provide needed management flexibility in matching numbers and skills with requirements.

In terms of the hypothetical example discussed above, the shortages in the critical four to fourteen years of service could be addressed by increasing pay and other benefits over that period. The surpluses in the fifteen to twenty-five years of service, which are directly related to the assumed 25-year pension eligibility period, could be eliminated by reducing that period (and the pension) to say 15 years, or less, and using pay adjustments to maintain the desired numbers beyond that period. If this pension is non-contributory, and hence really a conditional deferment of pay, it will have little effect on the retention of younger individuals, who presumably have higher rates of time preference than older individuals, but will be highly important to individuals as they approach the qualification threshold and will provide both an incentive to remain in the military until that threshold has been reached and a further incentive to leave immediately afterwards. The result is the sharp discontinuity in retention shown in Figure 3. A preferable solution to managing the attrition profile in this case would be to

[11] In shifting from a conscription based force to an all volunteer force, Italy initially experienced considerable difficulty in recruiting because of concerns that not every member could be guaranteed a permanent position with the military or other government departments after the initial enlistment period of three years. Subsequent legislation provided that every individual who completed an initial one-year volunteer term and was selected for reenlistment into a second term of four years would be guaranteed permanent employment. See Villani, "Recruitment in a Period of Transformation: The Italian Experience."

eliminate this type of pension altogether and reallocate the funds to raising current pay, especially to younger members. This would encourage the retention of younger members and would provide resources for establishing alternative pension arrangements, including contributory schemes with relatively short vesting requirements, with less potential for distorting attrition rates.

In addition to age and years of service, incentives for remaining in the military may also be related to a service member's status with regard to dependents. Pay and other benefits, for example, may depend upon marital status and numbers of children. The additional pay and benefits tied to dependents are of course not directly related to performance and retention incentives, though, where they exit, there will obviously be some incentive for members with dependents to remain in the military for longer periods than those without. In addition, pay and benefit differentials will likely provide some incentive to acquire dependents, with the combined result that the military will tend to become relatively heavily dependent intensive. For the military, this implies additional costs for moving, education and other family support services. Thus the true costs associated with dependents will be greater than pay differentials themselves would seem to indicate. High dependency ratios in a military force may also complicate readiness issues. They certainly raise equity considerations with regard to otherwise similar members who do not have dependents. On the other hand, as part of the incentive packages required to attract and retain service members, especially given the unique circumstances of military life, effective family support programmes are clearly necessary. Pay differentials based on dependent's status, however, would appear to be clearly unjustified and many militaries make no provision for them.

Attrition rates of course respond to more than pay and pension considerations. Issues of human justice are just as important, if not more so. Indeed, retention of qualified and professionally motivated individuals will only be possible if the work environment is unambiguously characterised by a culture of fairness, such that all military members of the same status are treated equally with respect to promotion opportunities, personal support, discipline and work assignments. This may not be easy to achieve, especially with regard to assignments and postings, where it will always be the case that some are more attractive than others. Clearly, individuals who are dissatisfied with their assignments will have little incentive to perform well or even to continue their military service. As previously, however, this type of problem should be addressed by aligning individual preferences with military requirements. One way of doing this would be to offer both financial and non-financial incentives—attractive follow-on assignments, more leave, etc.—to fill less attractive assignments with volunteers. An even more precise way would be to open a bidding system whereby individuals would indicate the minimum additional payment they would be willing to accept to take specified hard-to-fill positions. Based on the individual's qualifications and other con-

siderations such as time remaining in his current enlistment, manpower managers would then be able to accept the lowest bid, theoretically at least satisfying both the interests of the individual and the needs of the service. Capturing individual preferences in this way and giving military members the ability to influence their own assignments and careers would seem to have the potential to improve retention and motivation throughout the entire force.[12]

While making the military attractive to the individual, the manpower management system has to go beyond a simple concern with maintaining adequate numbers. It must also ensure that the interests of the military are well served in terms of retaining the right individuals with the right skills. Reenlistment should therefore be offered as a privilege and not as a right, giving the military a clear opportunity to eliminate non-productive and ineffective individuals. Only those with demonstrated competence and high levels of performance should be allowed to reenlist. The promotion system should be used to similar effect, selecting those with demonstrated ability, personal qualities and potential for higher rank and rejecting those who do not.

Changing the Paradigm: Opening Up the System

Whatever attrition management strategies are selected, they will have to be targeted differently across different occupational categories, perhaps significantly, since each category can be expected to have its own distinctive attrition profile. Combat expertise, for example, has little alternative applicability outside the military. It can be expected therefore that the reenlistment decisions of combat specialists are not highly sensitive to pay differentials with the civilian economy. For other occupations, however, such as information specialists, technicians, pilots and engineers, whose skills are much more transferable to alternative employment, pay differentials can be expected to be more heavily weighted in reenlistment decisions. Military skills also have different lifecycles of effectiveness. Combat skills, which rely significantly on youth and vigour, may be effective for perhaps ten to fifteen years while those of technicians, engineers and medical doctors could be effective for several decades. This introduces a difficult contradiction. On the one hand, those with the least economically valuable skills—measured only in terms of their alternative employment opportunities—will have little incentive to leave the military once their physical capabilities have peaked and their effectiveness has begun to decline. On the other hand, those with the best alternative opportunities, and who simultaneously are those whose contribution to the military would have the longest expected lifespan, will have little incentive to remain, should pay and

[12] The US military has experimented with a number of auction schemes of this type. See Donald J. Cymrot and Michael L. Hansen, “Overhauling Enlisted Careers and Compensation,” in *Filling the Ranks*, 137-142.

other benefit differentials with civilian employment be sufficiently high. Rigid pension schemes and inflexible pay scales can therefore blunt the military's capacity to compete for people who have attractive alternatives in the private sector. To retain specialists in these categories, and also to maintain the occupational balance in the total force structure, requires competing with pay and other benefits available for equivalent positions in the civilian sphere.[13] But with a common military pay and benefits package, this would mean overpaying those in less needed roles, and would indeed exacerbate occupational and age imbalances by further encouraging them to remain.

The resolution of this contradiction clearly lies in the establishment of more flexible pay and personnel systems within military forces. More generally it would seem to demand an increased differentiation of military career models, differentiated, that is, across the entire spectrum of recruiting, training, deployment, promotion and conditions of service, including pensions, pay and benefits. Even at the entry level training and pay schemes should provide for recruiting at different skill and educational levels. Different occupational categories would have different assignment lengths, different criteria for promotion and different mandatory retirement dates. Pay structures could be differentiated to track pay levels in similar private sector occupations. Pension schemes, for example, could be structured such that combat specialists would find it more beneficial to retire at an earlier age than other specialists.

At the same time, career differentiation would also seem to demand closer alignment of military careers with their equivalents in the civilian economy. In other words, career patterns would simultaneously have to become more vertically differentiated within the military itself but more horizontally integrated into the economy as a whole. A technician, for example, would have a career path and conditions of service very different from a pilot, as he does to a certain extent now, but these differences would now reflect their respective alternative opportunities in the civilian economy. For the combat arms components, which have fewer close civilian equivalent occupations, career models would emphasise pay, promotion and retirement schemes that reflect the need for rapid turnover at junior levels while at the same time motivate the most capable to rise to high levels of command.

These notions of career reconstruction reflect the reality of the changing demographic, economic and strategic context of contemporary society, especially the increasing decentralisation and fluidity of human affairs being brought about by globalisation. Decentralisation does not fit well with traditional military ideas of centralised hierarchies, the integrity of command, and standardisation, but it would appear that even

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[13] This would imply significantly increasing the variability of military pay levels across individuals to match the much wider distribution of compensation in civilian employment. This may have morale implications since a sense of shared compensation and shared sacrifice is an essential part of the military ethos.

warfighting, particularly in the guise of network enabled operations, is also evolving in exactly that direction. Nevertheless, the introduction of widely different career structures and differential pay and benefits schemes raises difficult challenges for military manpower managers. For one thing, it would introduce much greater variability in pay scales across occupations for the same rank level than has traditionally existed in military organisations. And this lack of variability has apparently served an important purpose. Military organisations, for all of their emphasis on hierarchy, are in fact team-oriented production organisations and are apparently becoming more so as military transformation progresses. But since the essence of team production is cooperation and not competition, it would appear that differentiated motivational rewards, which in cooperative activities should logically be for team effort rather than individual benefit, could well undermine cooperative efforts.

Similarly, differential pay scales based on occupation could result in situations where low-ranking specialists, say in information technology or aircraft maintenance, are paid much more than their perhaps less technically qualified superiors. This would seem to undermine the very concepts of command authority and responsibility through which militaries necessarily function, especially if the higher paid member is able to leave the military and easily move to an equally well-paying job. But mechanisms should be available that disconnect pay from rank and authority and still leave that rank and authority intact. Businesses and universities do it as a matter of course, recognising this as yet another manifestation of the management dexterity required to attract the right talent in an age of increasingly flexible labour markets. For the military not to seek similar solutions would leave it out of step with its own high-technology ambitions.

The idea of differentiated career structures together with the closer alignment of those structures with the civilian economy fundamentally challenges the conventional model of the military as a closed system. It is a very short leap from alignment to interchangeability, a concept that would seem to encourage a more open system, one that would permit more fluid, lateral movement between military and civilian employment. In such a system, manpower managers would be permitted to fill shortages by recruiting suitably qualified individuals directly from the civilian labour market. Conceivably, too, under normal circumstances, serving members would be freer to transfer to civilian employment, or further education, as they saw fit, and they would do so without prejudice to their reentry at some later date should they so decide.

It is a concept with some clear benefits for the military. For one thing it turns what was previously described as a military disadvantage—the intense competition in recruiting the high technology specialists required for modern warfighting—into a potential advantage. As skills become more readily transferable between the private sector and the military, the military could rely more on lateral transfers to promptly fill short-

ages that under the closed system might take years to accomplish. In addition, it reduces the need for the military to devote resources to providing training and education that are widely available elsewhere, especially in technological and administrative fields. Indeed, given the leading role of civilian industry in research and development, particularly in the fields of electronics and information technologies that are so critical to emerging military requirements, some expert knowledge may actually be better cultivated outside of the military than within it. In such areas a career model that cycles employment through phases of military duty and private-sector employment may be the best, perhaps the only solution, to meeting both the preferences of the individual and the needs of the military.[14]

Despite these theoretical advantages, increased integration of military and civilian occupational structures raises difficult practical issues, especially in career management and leadership. How do you fit a recruit with desired skills but no military experience into the rank hierarchy? How can you expect an officer to become a general if he began his military career as a colonel? But even more importantly, increased integration would seem to dangerously undermine the critical notions of corporateness and military ethos that sustain effective warfighting capabilities. How, for an example, would an army of specialists work as an effective team?

Most of these issues can be resolved. First of all, different professional specialties would have to have different career models with different polices about lateral entry or reentry but each would require some minimum basic training that orients new entrants, of whatever level, towards the military ethos and way of life. Subsequently, at different stages of their 'military-civilian careers,' they would participate in collective training to ensure that they can effectively apply their skills as part of an operational team. Refresher training for persons reentering the military would be tailored to occupational categories and would become as routine as basic training. Moreover, internal occupational transfers and reassignment should be widely accepted, again based on matching individual preferences to military requirements, possibly through retraining within the military but also with the options of allowing the applicant to seek retraining on his

[14] Asch and Warner suggest that the career rigidity characteristics of the conventional model can also have negative effects on the military's compensation and promotion systems. By barring lateral entry, the military profession requires a higher-quality pool at the entry level to ensure that it will have enough qualified individuals at higher levels. Because true ability is unobservable at entry, the only way to hire higher-ability individuals is to raise entry pay and improve the average ability of the applicant pool. This in turn makes the organisation's entire pay scale seem flat in comparison to organisations without the lateral entry constraint. Beth J. Asch and John T. Warner, "A Theory of Compensation and Personnel Policy in Hierarchical Organizations with Application to the United States Military," *Journal of Labor Economics* 19, no. 3 (July 2001): 523-562.

own through civilian training facilities or even through civilian employment. Reclassification of this sort has the added bonus of broadening the knowledge base and hence the flexibility of the force.

The scope for transferability of combat specialists to the civilian economy would appear to be more limited. However, the concept of military operations is changing. Though combat obviously remains their focus, militaries are increasingly involved with stabilisation and reconstruction activities, and these, by their nature, require coordination and cooperation with civilian agencies. There would seem to be considerable advantage, therefore, in having combat specialists broaden their experience by permitting them to move laterally between the military and civilian agencies doing similar work. Moreover, since the command and control of these more complex force arrangements would likely have to remain within the purview of senior combat specialists, the lateral movement of these specialists between the military and senior executive positions in private business, government or international organisations would pay huge dividends in developing their management skills.

Reserve forces would appear to have an important, perhaps crucial, role in the implementation of manpower structures that encourage the integration of military and civilian employment. For most countries the role of reserve forces has changed significantly over past decades. Traditionally, they have formed a mobilisation base, generally for territorial defence, while the professional regular forces provided the training, administrative and command framework required to activate and deploy this mobilisation base. In this age of globalisation, however, where security for most countries is defined in terms of international stability, few countries consider territorial defence to be a major concern. As a result, reserve forces have largely evolved into reservoirs of personnel with specialised skills, including combat skills that can be called upon to fill deficiencies and shortages in regular forces as required. In some instances, this might be on a unit basis but the practicalities of collective training for reserve units at a sufficiently intensive level seem to preclude this option, particularly in the case of combat units. However, anecdotal evidence seems to indicate that reserves with specialist skills used in their civilian occupations can be highly valued assets in actual operational situations.[15]

Reserve force members combine civilian careers with part-time military careers such that they are able to practice their own civilian professions but at the same time continue their military association. This association makes possible the maintenance of basic military skills and, importantly, continues their immersion in the military ethos. It also affords the opportunity to adapt their particular skills to military requirements. Thus an individual building a career structure that interspersed periods of military ser-

[15] Correspondence with serving members of the United States Marine Corps serving in Iraq.

vice with civilian employment would find the reserve force participation the ideal vehicle for doing so. Reserve force units then become a kind of transfer station facilitating the movement of specialists into and out of regular force employment. They would also be ideally situated for identifying and recruiting individuals having both the particular skills required by force planners and the willingness and flexibility to pursue a looser career of alternating civilian and military employment. As such, they become the essential element in making the military more competitive in the market for specialist skills and at the same time provide it with needed flexibility in the management of manpower supply.

There are of course other ways of achieving this flexibility when conventional recruiting and training cannot react quickly enough. One option is to use civilian government employees in military roles, especially in administrative and other non-combat roles, either on a short-term or permanent basis. The obvious advantage of this alternative is that individuals with the requisite skills can usually be obtained quickly, provided that government hiring bureaucracies are reasonably efficient. The disadvantage is that they can only be obtained quickly because they usually lack the necessary military skills, knowledge and acclimatisation. Of course, if these attributes are not essential for a particular position, then it would make sense to civilianise that position altogether.

Another option, and one that has become very familiar in recent years, is the contracting out not of specific positions but of specific tasks to civilian firms. The great advantage of this alternative is that it can provide necessary skills that can be targeted on a specific operation and in a timely manner. It can also be less costly than internal provision of specific services by either military or civilian employees since firms as a rule must compete for contracts on a lowest cost basis and at the same time are usually able to exploit economies of scale unavailable to governments. Contractors may also be able to use sources of labour that are less expensive than government employees, though when needed skills are in short supply, or services must be provided under dangerous conditions, contractors will have a flexibility to pay even higher wages that is normally not available to government bureaucracies. However, the use of contractors raises other issues, including difficulties of control and the renegotiation of contracts when circumstances change. Reliability is also an important issue, particularly when civilian contractors are able to walk away from threatening situations with the prospect of nothing more than financial liability, an opportunity obviously not available to military persons. There are also issues of the legal status of civilian contractors which may well constrain just what services they are able to contribute to military operations. At best, then, given their limitations, the use of civilian employees and contractors to provide flexibility in manpower supply can only be considered to be stopgap measures. A more enduring remedy would be to exploit increasing labour market fluid-

ity and devise a scheme of career-long alternating transfers of skilled individuals between military and civilian employment through the intermediation of a robust reserve system.

Conclusion

Globalisation and technology are making it imperative that militaries change their organisational structures, their concepts of operation and their equipment inventories, all with a view to achieving the agility and responsiveness needed to deal with a world of uncertain threats. As manpower is the medium through which all of these changes have to be achieved, it is essential that manpower management becomes equally agile and responsive. By design, however, military systems are closed throughput systems. Left alone, they require long periods of time to reconfigure themselves to meet changing circumstances, especially in eliminating shortages and surpluses in manpower, both in terms of numbers and in terms of specific occupational skills. At the same time demographic change and the growing convergence of skill requirements in the military and civilian sectors are intensifying the competition for similar kinds of manpower. Both of these factors—the internal structural inertia of traditional military manpower systems and the external competition for skills—represent major challenges to the successful transformation of military forces and underline the requirement for innovative force management concepts that will allow for the swift matching of manpower supply to shifting manpower requirements.

Increasing the responsiveness of military manpower structures to changing military requirements means enhancing the incentives that individuals have to enter, remain and leave the military voluntarily as the demand for their services changes. This means having a manpower management system that is flexible enough to shape such things as pay, retirement schemes, reenlistment and separation bonuses, posting incentives and educational opportunities that can help to reconcile the interests and preferences of the individual with those of the military. It means, too, that pay and other benefits must remain competitive with pay and benefits in the private sector. Manpower management systems must also become more innovative in other ways, particularly in exploiting the increasing flexibility of labour markets and becoming more open to the lateral movement of skilled individuals between military and civilian employment. In providing a conduit for such movements, reserve forces can become catalysts for dramatically enhancing the flexibility of manpower supply; as a consequence they become essential elements in broader military transformation.

No matter how innovative, however, manpower management can never be successful unless it is completely integrated into an effective defence planning and budgeting system which rationally links all resources to military strategy and continuously assesses the pattern of resource use against that strategy. Only in this way it is possi-

ble to logically define the demand for military manpower, not only in terms of numbers but in terms of the entire spectrum of required attributes, including occupational skills, age, experience, and rank levels. Accordingly, the planning of manpower requirements should ideally be incorporated into defence planning over a series of integrated time horizons. At the strategic level, say 20 years into the future, the focus will be on broad planning parameters based on judgments about what the emerging strategic environment and emerging technologies imply for the kinds of military forces that will likely be required in the future. Planners at this stage will also be concerned with the broad implications of the emerging demographic, economic, and social environments for the ways in which future forces can be raised and organised and with what changes will be required in manpower management systems to accommodate them. Long-term planning, say with a time horizon of 10 to 15 years, will begin to put hard numbers against manpower requirements as force structures and equipment acquisition plans become solidified. On the supply side, future requirements for manpower will be compared with forecast availability to identify emerging shortages and surpluses and will formulate the policy options needed to deal with them. Operational planning, with a time horizon of say 3 to 5 years, will be concerned with identifying specific organisational requirements while on the supply side the search will begin for specific individuals to fill those requirements. To achieve the agility and responsiveness required to ensure that manpower supply does in fact continue to match changing requirements requires that these three manpower planning phases – the strategic, the long-term, and the operational – be harmonised and carried out on a rolling annual basis.[16]

As with other aspects of military transformation, reforms in manpower management will inevitably run into institutional and political barriers that stand in the way of change. It is of course in the nature of change that it always brings forth natural resistance, and this is useful because change for the sake of change can be expensive and can have unpleasant and irreversible consequences. Nowhere is this more so than in the military, where the consequences of change gone wrong can be truly devastating. What is necessary above all, then, as with other aspects of military transformation, is careful experimentation and testing of new manpower management concepts. Experimentation can serve to test their claimed advantages, provide information on their costs, throw light on the practicalities of their implementation, coax out unanticipated consequences and ultimately suggest refinements. More importantly, however, if experimentation is successful in validating new manpower management concepts, it can lead to buy-in by authorities capable of implementing them, by those who will have to execute them and by those who will be affected by them. Ultimately, however, man-

[16] For an example of such a planning structure see Canada, Department of National Defence, *Military HR Strategy 2020* (Ottawa: Minister of National Defence, 2002), www.forces.gc.ca/hr.

power management practices are more about people and the military cultures that they inhabit than they are about systems. It will therefore be the pace of cultural change and not that of technological or doctrinal change that drives the pace of manpower management reform. The important thing is that this change is in the right direction.

Chapter 6

Acquisition Management

Anthony Lawrence

Introduction

Acquisition is the process by which equipment and/or services sourced from external agencies are used in the building of effective military capability.[1] The external agencies are normally defence industry suppliers from whom the required equipment and/or services are procured through contractual arrangements that regulate the supply chain. 'Equipment' customarily refers to weapon systems or other warlike materiel; however, acquisition processes may also be used to obtain non-warlike materiel required by the defence establishment like office information systems or defence infrastructure. 'Services' means non-physical items that are nevertheless required in the building of military capability and may be externally sourced, for example various forms of consultancy, logistics support and training and education courses.

Although acquisition includes the activity of procurement, a term generally used to refer to the purchasing of goods and services by governments from external suppliers, it is a much broader discipline. Modern weapons systems are complex, expensive and will often remain in service for many years. Decisions made in the early phases of an acquisition project, in particular those which define what will actually be acquired, are likely to have significant downstream implications which, if they have not been anticipated and recognised in planning, may result in the overall failure of the project. Ac-

[1] Capability: "an operational outcome or effect that users of equipment need to achieve" (U.K. MoD Acquisition Management System Glossary, at www.ams.mod.uk).

quisition attempts to take account of this by adopting a whole life approach, which views the project as a single undertaking across its entire lifecycle from identification of need through to disposal. Acquisition thus involves activities for identifying the requirements for equipment and/or services to meet the needs of the user, procuring them, ensuring their support throughout their useful lifecycle and providing for their eventual disposal.

However, acquisition not only aims to provide equipment and/or services to meet user needs but also to ensure that defence budgets are wisely spent and that the equipment and/or services acquired thus represent value for money for the taxpayer. This obligation requires the acquisition manager to identify the most balanced trade-off between the performance required by the user, the cost of the project and the project timescale and thus to find acceptable solutions that address the tensions that frequently exist between these demands. In turn, this leads to a requirement for the overall acquisition process to be objective, disciplined and transparent. Furthermore, risk—the potential for unforeseen events with damaging consequences—is an unavoidable feature of the acquisition process; in fact, the complexity, expense, technological sophistication and long lifecycles of many weapon systems make acquisition one of the riskier peacetime tasks that defence establishments have to undertake and thus one of the most likely to benefit from shrewd management. Acquisition management thus involves the application of management techniques and processes with the aim of reducing project risks and helping to ensure that the right capability will be delivered when it is needed at an affordable price.

This chapter explores some of the issues involved in acquisition management. It sets acquisition management into its wider context by describing some of the processes that lead to the decision to launch a particular acquisition project, looks at the use of acquisition strategies as a means to choose how best to acquire equipment and/or services and to demonstrate these choices to stakeholders, and at acquisition cycles as a means for managing the project once launched.

Scope

While acquisition covers a wide range of disciplines and tasks, it can essentially be broken down into three broad areas of activity:

- Deciding what to acquire
- Deciding how to acquire it
- Acquiring it.

Deciding what to acquire, on the surface a simple task, is both far from trivial and key to the overall success of an acquisition project. Defence budgets, although usually among the larger components of public spending, are rarely sufficient to cover all de-

fence requirements and acquisition projects must be carefully prioritised in order to assemble an overall defence programme that is as comprehensive and as balanced as possible (and, of course, individual projects must be properly managed to ensure that they represent good value for money and an appropriate use of defence resources). Close examination of competing requirements and creative thinking about the means to address them are thus essential for successful acquisition; investment in these activities will help to reduce project risk and increase the overall chance of project success.[2]

Deciding how to acquire equipment and/or services is usually achieved through the preparation of an acquisition strategy, a formal document that records and justifies the various decisions taken. Once again, investment here will help to reduce risk and raise the chances of project success. The practice of actually acquiring the equipment and/or services, supporting them through their in-service life and eventually disposing of them is often broken down into a series of phases to make the overall task more manageable and to introduce points at which the project can be reviewed and decisions about its future taken. This is known as an acquisition cycle.

It should be noted here that these three areas of activity are interrelated and will not necessarily take place sequentially as their presentation in the form of a list suggests. As will be seen below, for example, there is much benefit in including activities aimed at identifying and clarifying what is to be acquired within the acquisition cycle itself.

Who Is Involved?

The successful conduct of the full range of activities included in the acquisition process will involve the employment of various disciplines and skills. Acquisition is usually too complex to be undertaken by single individuals, or even by groups of individuals, and the overall task will need to be shared amongst different sets of actors. There is no single right way to do this. Different defence establishments have chosen to divide up the process in different ways and among different actors. Nonetheless, there are broadly four categories of people—or stakeholders—involved.

Firstly, there are *those who decide upon the requirements* for the equipment and/or services to be acquired. Effective requirement setting does not take place in a single moment but over a period of time and study during which the requirement is gradually clarified and elaborated in greater detail. For example, an initially broad requirement for a capability to destroy a potential enemy's main battle tanks might, through exami-

[2] In this chapter, an acquisition *project* is set of activities aimed at providing equipment and/or services to meet agreed performance, cost and time targets, while the defence *programme* is the entire range of projects currently being executed or planned.

nation of the options available, be narrowed down to a requirement for a portable anti-tank missile system and eventually translated into a detailed specification describing the exact performance required. The task of implementing and managing this period of time and study—and thus defining the requirement—does not necessarily belong to a single agency, but can be transferred from one group to another as the study deepens (see 'Deciding what to acquire – establishing the requirement' below). However the task is allocated, one especially important stakeholder in this category is the user – the representative of the armed forces who is responsible for elaborating the requirement as seen by those who will eventually operate the equipment or make use of the services acquired. Clearly, the user has the expert knowledge of how military systems are employed in practice and, therefore, what sort of capability is required to prosecute a given military task. However, as will be seen, this does not necessarily make the user the best person to decide on equipment solutions to meet the capability requirement, or to manage the full acquisition process. The user community—the armed forces—will generally take the lead in the earlier stages of requirement setting but the later stages are often better handled by acquisition specialists. These form the second category of stakeholder.

Acquisition specialists will usually be responsible for managing the bulk of the acquisition project: specifying the detailed requirement, contracting with suppliers, ensuring delivery of the required equipment and/or services, managing through-life support and arranging for final disposal. Because acquisition can be very complex, many nations have found it beneficial to establish departments or agencies specifically tasked with this role and to cultivate acquisition management as a career specialisation. There are many advantages to this approach, which fosters the development and sharing of acquisition expertise on both an individual and a corporate basis, while freeing the user to concentrate on core military business. More than this, however, managing an acquisition project requires that financial responsibility—the obligation to spend public funds wisely—should be delegated to the acquisition manager and executed through the proper employment of the budget allocated to the project. This raises an important point of principle: that the user function is best separated from the financial function. This is because the user, for understandable and perfectly justifiable reasons, tends to seek out the best technical solution to a particular requirement, whereas the wider interest of the defence establishment, not to mention governments, parliaments and taxpayers, is that a balance is struck between equipping the armed forces as well as possible and the correct spending of public funds. This in turn requires that a more neutral actor—the acquisition manager—should be entrusted with selecting the best solution to resolve the tensions that sometimes exist between these two demands.

Acquisition itself involves many different sub-specialisations, such as requirements management, project management, risk management, administration, financial management, support management, quality management, safety management, reliability management, contract and legal issues and policy issues. A multidisciplinary project team, sometimes known as an Integrated Project Team (IPT) will thus often be formed under a project manager or acquisition manager to carry out an acquisition project. Most of this chapter is concerned with the role and activities of these acquisition specialists.

The third category of stakeholder is made up of *those who will oversee and scrutinise* acquisition projects, usually members of the defence establishment's senior leadership. The requirement for oversight does not arise because acquisition specialists cannot be trusted to carry out their work competently, but for wider reasons related to the overall management of defence. At the programme level, there is a need for independent oversight of the overall acquisition programme, a continual need for rebalancing that programme as priorities shift and as different projects reach different stages of maturity and a need to ensure that consistent standards are applied both within the acquisition programme and with the defence establishment's dealings with external agencies. These stakeholders also operate at the project level in delegating authority to the acquisition manager, setting project objectives and monitoring project performance. Finally, in addition to oversight and scrutiny, these stakeholders also often carry out important wider functions in enabling successful acquisition management, in particular in ensuring that project teams are provided with the right financial resources (by acting as the sponsors of the acquisition programme within the defence establishment) and the right mix of properly qualified people.

The final category of stakeholder is the *external agencies* that have the means to supply the equipment and/or services to be acquired. They will usually be private businesses but this category may also include other government agencies or other governments. The project will have a greater chance of success if the relationship between the defence establishment and these external agencies is a collaborative one, not a combative one, in which both sides recognise each others' capabilities and expectations.

Deciding What to Acquire – Establishing the Requirement

Weapon systems and other items of military equipment are hugely expensive and often very technologically complex. They take a great deal of time and effort to acquire and are likely to remain in service for many years, sometimes in a very different role from the one they were originally intended for. This is especially the case for platforms: many states continue to operate land, sea and air systems based on platforms purchased decades ago and upgraded to remain militarily useful today. The U.S. B-52

aircraft, which first entered service in 1955, and whose current generation of airframe will still be capable beyond 2040, is a striking example.[3] Few other purchasing organisations are required to handle projects on the scale and scope of those managed by defence acquisition specialists.

In addition, defence budgets are limited. It is highly unlikely that the resources available to equip a nation's armed forces will be sufficient to supply all, or even most, of the capability that would be useful in supporting the full range of its activities. This means that hard decisions need to be taken about what to include in the defence programme and what can be postponed or rejected. A related consideration is that as defence is a state funded activity, its acquisition programmes are subject to media, public and parliamentary attention; defence acquisition is visible to the outside world. This is as it should be, but it does mean that difficulties with defence projects can easily become political problems too.

For these reasons, it is not only essential that individual acquisition projects are effectively and carefully managed and that defence money is thus properly spent, but also that, as part of this process, every effort is made to ensure that sensible decisions about exactly what to acquire are made before large amounts of defence money are consumed. Mistakes made at the early stage of a project can saddle the armed forces for years with systems that are inadequate for their intended purposes or even of no use at all. They will remain idle or will require major financial outlays to put right later. It is far better to make sure from the start that what is acquired is what is required.

Where, then, does the requirement for new acquisition projects come from? Military tasks and defence planning assumptions are derived, at the strategic planning level, from defence policy and set out in general terms what the armed forces should be capable of achieving. Analysis of these will, in turn, lead to capability requirements and comparisons of these requirements with the existing capability inventory and will reveal capability shortfalls. Acquisition is the business of translating production capability and other forms of expertise available in external agencies into contributions that address these identified capability shortfalls. Capability shortfalls may thus arise for a number of reasons; among the most important:

- Policy has changed. New military tasks may be added, requiring new sets of capabilities. An example is the recent emphasis placed on expeditionary operations by NATO and European states, requiring their armed forces to be more flexible, deployable and sustainable.
- The threat has changed. New threats may arise or the character of an existing threat may change. If these threats are judged sufficiently serious to need

[3] United States Air Force, *B-52 Stratofortress Fact Sheet*, http://www.af.mil/factsheets/factsheet.asp?id=83.

to be actively countered by the preparation of military force, new sets of capabilities may also be required.

- Technology has advanced. Technological developments may create new and better ways of carrying out military tasks. (The converse of this is that technology development may make existing equipment obsolete).
- Doctrine has changed. While doctrine is defined on a state (or sometimes alliance) basis, armed forces will learn from each others' approaches to the application of military force and tend to evolve in similar directions. Doctrinal changes may also create new and better ways of carrying out military tasks, superseding old ways of doing business.

As budgetary constraints will make it impossible to address every capability shortfall that might arise—or even a small fraction of them—it is essential that they are examined calmly and logically in order that they can be properly prioritised. Defence policy and planning assumptions provide the starting points for this effort, but more often than not the guidance that such documents offer is vague and careful analysis is necessary to establish a balanced and effective defence programme. This has traditionally been done at the level of equipment types (tanks, aircraft, ships, artillery pieces) and has often led to decisions to pursue acquisition projects being taken for unsound reasons. It has frequently been assumed, for example, that an obsolete piece of equipment needs to be automatically replaced with a newer model, or that because potential enemies or allies have a particular piece of equipment then it should also be in the national inventory. These considerations may be valid but they will not always be so. Generally, assumptions of this nature constrain thinking and may lead to less than optimal decisions about what to acquire.

Recent trends towards capability-based planning have been helpful in forcing those who set requirements to think in broader terms and to consider other combinations of technical and doctrinal solutions to address shortfalls besides the immediately obvious one.[4] The principles of capability-based planning essentially oblige the requirements setter to return to basics when examining ways to address a capability shortfall. It should never be assumed that just because a particular military task has been traditionally carried out in a particular way that this is the only or the best way. The growing emphasis among western armies on peace support operations, for example, has led to

[4] Capability-based planning: "The outcome of such planning is not concrete weapons systems and manning levels, but a description of the tasks force structure units should be able to perform expressed in capability terms. Once the capability inventory is defined, the most cost-effective and efficient physical force unit options to implement these capabilities are derived." NATO Research and Technology Organisation, *Handbook on Long Term Defence Planning*, RTO-TR-069, AC/323(SAS-025)TP/41, April 2003, 4.

requirements for capabilities to enable rapid and sometimes long-range deployment. This should not automatically lead to decisions to modernise or expand the transport aircraft fleet, as other solutions may be more suitable – leased, hired or purchased ships, for example, or leasing arrangements with commercial air freight carriers. The point is that it is essential that a hard-headed look is taken at these ways of addressing the shortfall, perhaps supported by analytical methods and tools, before a particular equipment solution is arrived at; not least because traditional ways of doing business may be prohibitively expensive and the failure to consider creative and imaginative solutions to addressing a capability shortfall may result in it receiving a lower priority in the defence programme.

Many of these considerations are more properly considered under the headings of defence planning or force development, rather than acquisition, and the details of their implementation are thus beyond the scope of this chapter. Nonetheless, as discussed above, requirement setting is a process of gradual refinement which, at some point, should be turned over to the acquisition manager. States have adopted different solutions as to when this handover of responsibility should occur, which will in turn depend on the roles assigned by law or custom to the agencies involved. In general, though, detailed technical expertise exists to lesser and lesser degrees in the modern defence establishment and, where complex projects are concerned, there is often merit in seeking expertise from external agencies in the requirements' setting process itself, for example through the use of consultants. In recognition of this, many nations form acquisition teams—as the defence establishment's specialists in obtaining services from external agencies—at an earlier stage in the process and include a phase of 'project definition' as part of the acquisition cycle.

Whether or not this is the case, two further considerations are worth noting here. The first consideration is simply that there is great benefit in involving the acquisition manager as early as possible in the overall requirements setting process, both a source of advice as to what it is possible to acquire from the market and the options for doing so, and also in order that he or she should have as good an understanding as possible of the requirement as seen by the user.

The second consideration, which is related to the question of when the requirement setting process is handed from the user community to the acquisition team, is that it is important that the acquisition team should not be unnecessarily constrained in the exercise of its financial responsibilities by any requirements set by the user. The acquisition manager will be responsible for achieving the best possible deal from external agencies which, in most cases, will involve examining competing options to supply the equipment and/or services and examining possible trade-offs between performance, cost and project timescale. If the requirement is too specific, the full range of possible solutions may not be allowable and the acquisition manager will be forced to rule out

solutions which ought to be acceptable. Some common sense is needed in judging which requirements should or should not be allowed to constrain the acquisition manager but it is helpful to introduce in this context the distinction between user requirements and technical requirements. In simple terms, the former define what is properly of interest to the end user—they define what is to be done—while the latter define how a particular effect is to be achieved. Technical requirements will eventually be necessary for establishing and managing contracts with external agencies as they specify in detail what is to be delivered and thus provide the criteria for acceptance of the project deliverables. But if they are adopted at too early a stage, they will drive the acquisition project towards a particular technical solution. Other feasible and perhaps more effective solutions will have been discarded without consideration and the acquisition manager will not be able to say, with any honesty, that best value for money has been achieved. The definition of technical requirements should thus be left to a later stage in the project and should be the responsibility of the acquisition manager, rather than the user community.

It may be helpful to illustrate the point with an example. Suppose that the capability to protect a deployed infantry force from attacks from the air has been identified as a shortfall and that a man-portable air defence system has been selected as the best way to address this shortfall. The user requires, among other things, a certain level of confidence that aerial targets threatening the area in which the force is deployed can be destroyed. This suggests at least two user requirements: the size of the area to be protected and the level of confidence that a given set of targets will be destroyed. There may, however, be many technical solutions to this problem since different systems can be built from different combinations of equipment: radar systems with different detection ranges; missiles with various ranges and kill probabilities etc. If the user attempts to specify these technical parameters—how things are to be done—the acquisition project will be driven towards technical solutions which may not necessarily represent the best value for money.

Considerations of Performance, Cost and Timescale

The above discussion suggests that the identification of the preferred technical solution to the capability shortfall should be considered as part of the acquisition process itself and that the acquisition manager should be given sufficient freedom to investigate and evaluate the possible options for meeting the requirements established by the user. Frequently, this will mean choosing among options with very different levels of performance and great variations in cost. In addition, and especially when equipment and/or services are not being purchased ‘off the shelf’ the point at which they can be delivered into service (the project timescale) may also vary considerably.

These three factors—performance, cost and timescale—will usually be in some way dependent upon each other. It should be expected, for example, that equipment offering better performance—such as an armoured infantry fighting vehicle with a higher speed or a greater level of crew protection—is likely to be more expensive than its lower performance counterpart. But the natural temptation of defence establishments to buy the best available—and usually, therefore, the most expensive—is not necessarily the best choice; indeed, it may open the door to an acquisition disaster (for example, if equipment is procured, but there is no capability to properly support it). It will certainly absorb resources that might be put to better use elsewhere in the defence programme. Equally, the cheapest option, often the most attractive from the financial perspective, may not be the best. Other options may offer significant performance or timescale advantages for little additional investment. Instead of focusing on a single factor, the three need to be considered alongside each other in order to identify the solution that offers the best possible performance, acceptably close to the timescale required and at an acceptable cost. A certain amount of judgement is needed in this process of trading off, but the preferred solution will usually, but not always, be the cheapest of those that meets all the performance requirements.

It should be noted at this point that cost should be considered on a whole life basis. Historical experience has shown that the initial purchase price of a piece of equipment represents only a fraction of the total ownership costs and is therefore an insufficient basis for the comparison of competing options. A piece of equipment with a low purchase price, for example, may be unreliable and require greater maintenance and repair than an initially more expensive piece. Its lifecycle cost may thus be greater. A range of techniques is available for estimating lifecycle costs (or costs of ownership) and for deciding which elements should be attributed to the project.

Of the three factors, the one that the defence establishment will have greatest control over is performance. As this is likely to be a major driver of cost, it is essential that those responsible for setting requirements make an honest appraisal of what is required and that those requirements are also subject to independent scrutiny. Once again, there is natural temptation amongst those close to the project to want the best possible and to inflate (often unintentionally) the performance requirement. The wider interest of the defence establishment, however, is in seeing that enough performance is acquired to fill the capability shortfall but that this is done without consuming excessive resources that might be better used elsewhere. Performance requirements should thus be subject to close, objective questioning to confirm that they do really represent user needs. Where better performance is on offer, this will usually be at a higher price, and the requirements setter should be able to demonstrate why the additional performance is necessary. This is one of the drivers for establishing appropriate project review points at which decision makers will scrutinise the work conducted so far and

either authorise the project to continue or require a further round of study (see 'Acquiring it – acquisition cycles' below). A certain amount of judgement will be necessary here but it may also be worth considering investing in more sophisticated studies to establish requirements, for example using more formal requirement capture techniques or carrying out operational analysis. The acquisition team will need to consider whether investment at this early stage of the project can be justified on the grounds that money will be saved later due to a more realistic definition of the requirement.

Other forms of trade off may also be made between the various performance parameters of a military system and these too are likely to have an impact on cost and project timescale. For example, there may be a choice to be made between acquiring smaller numbers of more reliable equipment and larger numbers of less reliable equipment, both providing comparable levels of service. The point, once again, is that the acquisition team needs the freedom to investigate such trade offs and to decide on the optimal technical solution. They should not be limited by too closely defined specifications from the user community (or, rather, specifications defined in technical as opposed to user terms). In the example above, what the user actually requires is a certain level of equipment availability, rather than a fixed number of pieces of equipment.[5]

Finally, while this discussion has argued that acquisition specialists should be given the leading role in identifying the best technical solutions to address a capability shortfall, it should be emphasised that the acquisition team cannot be given full and unilateral jurisdiction in this area. Any performance trade-offs will need to be explained to and negotiated with the user. If there is a dispute over which factor should be given priority in selecting solutions, the issue will need to be put to higher authorities for decisions. This need not mean a confrontational relationship between users and acquisition specialists but some states have found it useful to regulate the dealings between the two communities by defining a form of customer-supplier relationship between them.

Project Affordability

What has been described so far is a steady process of study and analysis which gradually leads to firmer decisions about what should be acquired. At the highest level, defence policy will decide which tasks the armed forces should pursue, capability analysis will then examine various ways of meeting these tasks and select the most appropriate, and the user will describe broad requirements for a particular type of

[5] "The ability of an item to be in a state to perform a required function under given conditions at a given instant of time or over a given time interval, assuming that the required external resources are provided." North Atlantic Treaty Organisation, *NATO R&M Terminology Applicable to ARMPs*, ARMP-7 (Edition 1), July 2001, 2-1.

equipment and/or service. This process, repeated across the range of capability shortfalls and prioritised, will allow the construction of an overall long-term defence programme – a plan for the development of the armed forces, typically over a period of ten to twenty years, setting out the manpower and equipment solutions to address the overall capability requirements. The programme will be more concrete in its earlier years, when particular equipment solutions are likely already to have been selected, but more provisional in later years, for which the range of options has yet to be fully analysed and reduced. These considerations cannot take place without parallel considerations of the costs involved. Hand in hand with the defence programme, therefore, will be a financial plan, covering the same time period and providing cost data for each of the items in the programme. Cost data too will be more accurate for the early years of the plan and more tentative in later years.

The financial plan is necessary to be able to demonstrate that individual projects are affordable. That is, that the whole life costs of the project can be accommodated within the overall future plans for both defence expenditure and manpower. It is thus a measure of the practicality or credibility of the project as a component of the future defence programme. As such, affordability cannot be assessed by acquisition managers who see the details only of their own projects (although their inputs will provide the raw data) but by defence planners, who have visibility of the full extent of the defence programme.

Affordability is an aspect of the project that requires regular review. As projects mature, so the accuracy of estimates of their lifecycle costs will improve. At the same time, the defence programme will inevitably change, priorities within it will shift and projects will need to be justified against the new overall context. This is another reason why projects should have regular, scheduled and formal reviews, which are normally built into the acquisition cycle (see ‘Acquiring it – acquisition cycles’ below) and undertaken by independent scrutineers.

It should also be noted that affordability needs to be assessed at every point in the full project lifecycle. Project spend profiles are not flat with equal sums being spent in each of the years of the lifecycle. There will be expenditure peaks and troughs and, similarly, peaks and troughs in manning requirements. This process of forward financial planning requires planners to ensure that the consequences of decisions on the content of the programme are projected into the future – in other words, that the whole life costs of a project are considered alongside its initial purchase costs. The consequences of these budget variations with time need to be managed, requiring affordability assessments to consider not just whether resources are within the current budget but also that long term financial and manning aspects are addressed.

Affordability is clearly one of the key assessments to be made in the decision as to whether to launch or continue a project. But as well as being convinced that a project

is affordable, decision makers will want to be convinced that it will be well run – they will want to see an acquisition strategy that promises a good chance of project success.

Deciding How to Acquire It – Acquisition Strategies

An acquisition strategy is a description of *how* the required capability is to be acquired. It has at least three purposes. Firstly, there are many routes to acquire equipment and/or services and the requirement to produce an acquisition strategy forces the acquisition manager to consider the range of options available and to justify his or her choices – he or she will need to think deeply about the possible acquisition approaches and to weigh their advantages and disadvantages with respect to the particular capability being acquired. This discipline will lead to better confidence in the eventual choices. Secondly, an acquisition strategy provides a reference document for the duration of the project, which may be long and see several turnovers in staff. Thirdly, an acquisition strategy provides evidence to scrutineers that the project will be properly run and deserves inclusion in the defence programme. For example, that it follows any legal requirements for public procurement, that it will achieve value for money and that project risks have been reduced to an acceptable level. For these reasons, it is usual that acquisition strategies take the form of formal documents written to an agreed structure (which will also act as a checklist to ensure that the acquisition manager has addressed the full range of considerations necessary for a successful acquisition).

Acquisition strategies should be regarded as living documents. Many of their elements will evolve as the project progresses and different aspects are given different emphasis. They should thus be subject to regular review, updating and agreement. While they will differ for different project types, and while different states will divide up the overall strategy in different ways, their basic features will be common. Aside from background material to explain the project and set the strategy in its wider context, the start point is usually for the acquisition team to decide upon, describe and justify an overall acquisition option. There are many ways to acquire the equipment and/or services to address a capability shortfall and the preferred acquisition option can be arrived at by considering the problem from several viewpoints. These might include:

- *Does new equipment need to be procured?* Certain equipment types may be available for lease, rather than purchase and a calculation of lifecycle costs (and consideration of the wider issues) might suggest that leasing offers a better long-term solution to meeting the requirement. For example, many states have elected to lease fleets of commercially available vehicles for staff cars and other general peacetime transportation purposes. Where these options are not available, the purchase of new equipment and/or services

should not automatically be assumed as the only, or the best way to address the capability shortfall. Modification of existing equipment (either from the state inventory or sourced from abroad) and accepting donated equipment should be considered alongside options such as off-the-shelf purchase and new development. Generally, though, these options will only be available in a minority of cases and defence acquisition will involve the procurement of new equipment and/or services.

- *Is the equipment/service available off-the-shelf, or does it need to be developed?* Addressing a capability shortfall by developing equipment to meet the precise requirement has several advantages, most importantly that the user will get exactly what he needs (or, at least, thinks that he needs). There may also be occasions when this is the only option available – when the required technology does not exist, for example, as is often the case when cutting edge science is to be applied for military purposes. But development of military equipment is generally an expensive and risky business, and projects of this nature are available to only a few states – usually those with their own defence industries. Most states will be in the business of choosing from the various systems available on the market, either as Commercial off-the-shelf (COTS) or Military off-the-shelf (MOTS) products. Because these systems have been developed to meet the needs of the original customer, a COTS/MOTS acquisition will usually involve compromising on one's own requirement in one way or another. On the other hand, the equipment and/or services will normally have a track record of in-service use, problems will have been ironed out and there will be demonstrated levels of performance. Further, development costs will already have been accounted for making the product cheaper and the existence of a proven design will make the product available within a shorter timeframe. These advantages also make COTS/MOTS acquisition attractive to states that have traditionally developed weapon systems, especially in fields such as Information Technology, and many of these states now encourage this type of project. It is important to note, however, that even COTS/MOTS acquisitions will usually involve a small amount of limited development work, which must be accounted for in project risk assessments. Examples might include the acquisition of services, which will almost always be tailored to an individual customer's needs, and the integration work needed to ensure that systems sourced from different manufacturers will work together (for example, the sensors, shooters and command and control equipment that make up many defence systems).
- *What is the scope of the acquisition?* The acquisition strategy should also decide, in broad terms, what is to be acquired. The sensors, shooters and com-

mand and control system above, for example, could be treated as three separate acquisition projects, with the acquisition team and end user responsible for their integration into the complete system. It is more usual in current practice and consistent with best practice in systems engineering, however, to transfer responsibility for the production of the whole system to a prime contractor, who will be required to contract with sub-contractors and to deliver the equipment or services to specification, cost and time. Another aspect of the scope question is the consideration of which, if any, support elements should be included in the project. When acquiring a complex defence system, it may also be worth acquiring support elements such as spares, technical and maintenance support and a training programme (or at least a 'train the trainers' programme) as part of an overall package.

- *Are the required equipment and/or services available from more than one supplier?* Where more than one supplier is able to provide the required equipment and/or services, cost, performance and timescale comparisons of the available solutions and selection of the most suitable option will usually be best achieved by running an acquisition competition. The competition process, which involves inviting interested parties to make offers against a set of requirements, evaluating these offers and selecting a winner (see 'Competitive acquisition' below) is widely considered to be a key means of ensuring best value for money in public procurement and is thus an integral element of many states' procurement policies. Where competition is not possible, or has been ruled out, efforts should still be made to ensure that best value for money is achieved. It may be possible, for example, to encourage competition at the sub-contract level, to divide the project into phases, some of which may be competed, or to provide incentives to the contractor to keep costs down through appropriate pricing arrangements (see below). In situations where a competition is not possible, the acquisition team will, in any case, need to decide on the minimum terms it considers acceptable—in particular, price—and to be prepared to refuse a contract unless these can be met.
- *Are other states interested in a similar acquisition project?* When other states have similar requirements, it may be possible to conduct an international acquisition project. This is also likely to mean compromising one's own requirements; on the other hand, project costs are shared with other nations and economies of scale are likely to result in cheaper unit prices for the goods and/or services thus acquired.
- *Does the capability need to be acquired in one go?* Spreading the acquisition over several sequential sub-projects (evolutionary or incremental acquisition)

has advantages in reducing risk, especially for projects involving development work, and in profiling the project budget.

Taken together, these considerations will allow the acquisition team to determine an overall acquisition option, which can be justified and documented in the acquisition strategy. They might, for example, decide to lease equipment from a single supplier, or to run a competition to select the most suitable COTS solution to meet the requirement. Once this overall decision has been reached, the team will need to consider how to implement this option, once again justifying and recording their decisions in the acquisition strategy. Their considerations might include:

- Project structure: How will the project be divided over time, what is to be achieved in each phase, and where are the key decision points? This will often be done with reference to an acquisition cycle (see 'Acquiring it – acquisition cycles' below).
- Management structure: How will the project team be organised to manage the acquisition? What specific expertise will be required, and when? How, and how frequently, will the team interface with the supplier?
- Pricing: How will the supplier be paid? There are essentially two choices: paying an agreed price for the delivery of an agreed set of equipment or services (*fixed* or *firm* pricing arrangements) or covering the costs incurred by the supplier, plus an agreed amount for profit (*cost plus* pricing arrangements).[6] The former are more common today, especially for COTS/MOTS acquisitions, and have the advantages of predictability and encouraging suppliers to reduce costs. The latter might be required in projects that involve a large amount of risk and unpredictability—usually those involving substantial development efforts—which the supplier is unwilling to bear alone. Various hybrid forms of pricing, which reduce the supplier's financial risk but nonetheless provide incentives to keep costs down, may be useful in such circumstances.[7]
- Payment arrangements: When will the supplier be paid? The long duration of many acquisition projects means that suppliers will often request stage payments in advance of final project completion. In these cases, a helpful management technique is to associate payments with project milestones, such that the supplier will need to have achieved demonstrable project progress in

[6] Firm prices, once agreed, do not vary in any way. With fixed price arrangements, a basic sum is agreed but allowed to vary according to agreed formulae with variations in economic conditions, for example inflation or international exchange rates.

[7] Hybrid pricing arrangements might include, for example, fixed profit sums regardless of cost, or target costs with associated formulae for calculating profit.

order to earn a payment. These milestones and the conditions for payment will need to be identified and documented.

- Support strategy: How will equipment be supported through its in-service life? The identification of effective and integrated support solutions at an early stage of the project is a key element in calculating lifecycle costs and thus establishing that a project represents good value for money. A support strategy should consider both issues of logistics support during operational use and more routine peacetime issues such as repair and maintenance.
- Risk management: What are the main risks to the project and how will these be managed? A risk plan will identify the main risks to the product, usually by assessing the likelihood of their occurrence and their impact should they occur, and propose measures to mitigate them (see 'Risk management' below). As with the wider acquisition strategy, the requirement to develop a risk management plan forces the acquisition team to think in advance about problems that may jeopardise the project's performance, cost and timescale parameters and to propose ways to deal with them (some of these proposals, for example the inclusion of additional project phases or contract terms that seek to transfer the management of risk to the supplier, will also be reflected elsewhere in the acquisition strategy). That project risks are within acceptable bounds is likely to be a factor of key interest to project scrutineers and a major consideration in their decision as to whether or not to allow a project to advance.
- Government furnished assets: What government furnished assets are required and how will their provision be managed? While the supplier will be responsible for managing the majority of the project resources, most acquisition projects will also require resources from the defence establishment. This might be in the form, for example, of information that is necessary for the project to proceed, existing equipment that is to be integrated with the new supply, infrastructure, or range facilities for testing weapons. Collectively these are known as Government furnished assets and, since they are the responsibility of the acquisition team to provide to the supplier, deserve special management attention. On a similar theme, there may be other projects in the defence programme that will provide capability related to that of the project under consideration (for example, the acquisition of a new ship may be related to a project to upgrade harbour facilities); any links with these projects will also need to be recognised in the acquisition strategy.
- Offset: Few states have extensive domestic defence industries and must therefore acquire defence equipment and/or services from foreign suppliers.

Offset refers to transactions negotiated in parallel with the procurement contract which are intended to compensate the domestic market in some way for this need to acquire from abroad. Many states require defence suppliers to identify and implement offset arrangements as a condition of being awarded a procurement contract; the offset proposals thus need to be developed and assessed alongside the main acquisition proposals. Offset may take many forms ranging from direct participation of the acquiring state's industries in the acquisition project (for example, shared development work or licensed manufacture), through the organisation of contracts by the supplier for other equipment and services in the acquiring state's defence or other high-technology industries, to the organisation of contracts in entirely unrelated fields (indirect offset). The requirement to include offset arrangements as part of an acquisition project is usually set out in state legislation or regulations and will thus not be the acquisition team's decision. Similarly, such regulations will often specify the type of offset required (or, at least, preferred), the minimum value of the offset project(s), usually expressed as a percentage of the value of the acquisition project, and the broad criteria for assessing the offset project(s) as part of the overall assessment and selection of suppliers. Nonetheless, the acquisition strategy will need to recognise offset as a feature of the overall project and explain the details of any offset requirement and how the interface between the acquisition and offset projects will be managed.

- Miscellaneous technical considerations: A range of other, more technical considerations will also often be necessary in the acquisition strategy. These might include: the quality assurance arrangements for the project; any environmental or safety issues that need to be addressed (often these will arise from state legislation); security considerations; management measures that are necessary to ensure that the equipment and/or services have met the specified requirements (for example, a testing and acceptance strategy); and arrangements for dealing with intellectual property.

In short, the acquisition strategy should be a comprehensive document that sets out in some detail how a particular acquisition project will be executed. The defence market is very varied and constantly changing and just because a project has succeeded in the past is no guarantee that the same approach will be successful in the future, or that an approach that has succeeded in one project can be translated to a second. It is, therefore, good discipline to go back to first principles and to require that an acquisition strategy is prepared for all new projects (drawing appropriate lessons from previous projects). It is also important that acquisition strategies (and other acquisition management approaches) are prepared and followed for even the smallest pro-

jects, although clearly some common sense is required in these cases to decide on the level of detail to include.

Competitive Acquisition

The need to achieve and demonstrate best value for money in defence acquisition usually demands that possible solutions to the user requirement should be compared and a preferred solution selected from the range of equipment and/or services (or proposals for developing them) available on the market. The most efficient, honest and transparent way to make this comparison is to run an acquisition competition. Competition is widely used in public procurement and is mandated by laws or regulations in many states. However, the process is time consuming and requires some effort on the part of the acquisition team. It thus requires a certain amount of forward planning and there will be occasions when the likely benefits of competition will be outweighed by the time and effort involved (this should not simply be assumed but demonstrated in the acquisition strategy).

The start point for any competition is to communicate the requirement to potential suppliers and to request their proposals for meeting it. This is usually done by issuing a formal *invitation to tender* or *request for proposals* to prospective suppliers. The format of these documents will vary but they will typically include a specification of the requirement to be met and instructions for how the response is to be prepared (such as the required content and format, instructions for delivery and the closing date). There is no need to invite every potential supplier to make a proposal but the grounds for excluding certain suppliers must, in the interests of fairness and honesty, be made clear. Soliciting expressions of interest and applying appropriate qualification criteria, perhaps through a formal pre-competition round, are means of avoiding problems at this stage. It is also important that every supplier who is invited to make a proposal is broadly capable of meeting the requirement; in other words, the competition must be a genuine one, not simply one run for the sake of appearances and in the expectation that one particular supplier will win.

There will then follow a period of time for the tenderers to make their proposals. Again, the format will vary but the acquisition team should require that tender responses contain at least technical proposals to meet the capability shortfall, a proposed project timescale and an offer price. Other information that might be useful would include material to support the tenderer's claim to be competent to fulfil the project requirements (such as company track record and qualifications of key project personnel) and material to demonstrate that the project will be well run (such as a draft project plan, project management structure and project risk assessment). It should be noted, however, that tender preparation is a costly and time consuming business and the acquisition team should restrict its requirement for information only to those items

that will actually be used in assessing the tender and assisting in contractor selection. It is usual, at this stage, to allow tenderers to approach the acquisition team with questions to clarify the requirements set out in the invitation documents; in this case, in order to ensure that the competition is fair, it is important that the same information is given to all the tenderers. As a general rule, the acquisition team needs to be certain that it treats all potential tenderers equally.

Once the closing date has passed, the received bids can be evaluated by the acquisition team and other interested parties. Again, in the interests of fairness, this should be a reasonably formal and structured process. The acquisition team will certainly need to have decided in advance the evaluation criteria they will use and apply these in an even-handed way to all offers. Formal evaluation schemes and numerical scoring methods are useful approaches to ensure objectivity and evenhandedness. As has already been noted, the preferred solution will usually be the cheapest offer that meets all technical requirements, but there will be value for money exceptions, for example when one tender offers significant performance advantages for little extra cost.

If there is a clear winner, the acquisition team can proceed to contract. Where it is difficult to make a choice between two or more bids, a second round of tendering may be initiated among these by inviting 'best and final offers' which will be evaluated in a similar manner to the original tender. The heart of the contract will be the proposals made in the winning tender, amended as necessary through post-tender negotiation between the acquisition team and supplier (in other words, the supplier will be contractually bound to its tender proposal). Post-tender negotiations may be used to make minor changes to the proposals in the winning tender; they should not be used to allow a favoured supplier to substantially change its proposals to achieve a closer match with the requirement and thus gain an unfair advantage over other tenderers. In addition to the tender proposal, which describes how the supplier will meet the project requirement, the contract will also contain commercial terms to regulate the customer-supplier relationship. The substance of these terms will depend on the legal system used by the defence establishment; many states have developed a standard set of contract terms which are used as the basis for drawing up individual contracts.[8]

[8] For example, a useful set of standard contract clauses for defence acquisition projects, which may be adapted for national purposes, has been developed by a NATO working group: NATO Group on Acquisition Practices (AC/313), *Guidelines on Contractual Terms for Cooperative Programmes (AACP-2)*, September 1994, www.nato.int/structur/AC/313/intro.htm.

Risk Management

The use of risk management techniques within an acquisition project is a response to the recognition that events are likely to arise that would threaten its performance cost and timescale targets and that the chances of project success are improved if these (or similar) events, along with measures to handle them should they occur, can be identified in advance. The size and complexity of defence projects makes them especially prone to risk and the step-by-step acquisition approach of an acquisition cycle can be viewed as a mechanism for helping to ensure that risks have been reduced to an appropriately low level before the project is allowed to proceed to the next phase.

Risk management is the process of identifying project risks, assessing their importance and planning how they will be dealt with. Risks to defence projects can come from many sources, from both within the defence establishment (internal risk) and from suppliers or potential suppliers and other external sources (external risk). Sources of internal risk might include changes to the user requirement, shifting defence priorities threatening the project's affordability and changes in government bringing political threats to the project. Sources of external risk might include supplier financial difficulties, technological immaturity and the consequent inability to deliver to specification and exchange rate fluctuations leading to higher project costs. Identifying and cataloguing these risks is the starting point of risk management. Useful techniques to help identify the full range of project risks include drawing on past experience from similar projects, brainstorming, scenario analysis and the use of project plans as a basis for methodical analysis.

Assessing the importance of each of these risks is usually done by judging the probability that they will occur and the impact on cost, time and performance should they do so. This can be done both qualitatively (using, for example, terms such as 'high,' 'medium' and 'low') or quantitatively, through the application of a suitable numerical scoring scale. Risk is defined as the product of probability of occurrence and impact, the calculation of which allows risks to be compared against each other and prioritised; higher risks need to be given greater management attention. It is clearly easier to perform these calculations and make sense of the results using a quantitative method, which implies the need for a standardised set of definitions to assist with risk quantification (for example, impact on timescale might be scored from 1 to 5 according to a scale expressing expected delays to the project from 1 month to 12 months).

Plans for dealing with risk usually take one of four forms, the suitability of which should be assessed for each identified risk.[9] Firstly, risks might be mitigated through

[9] A useful acronym for these four forms is CAAT – Control, Avoid, Assume, Transfer. Department of Defense Defense Acquisition University, *Risk Management Guide for DoD Acquisition*, Fifth Edition (Version 2.0), June 2003, 21.

positive actions aimed at reducing either their likelihood of occurrence, or the impact should they occur. For example, if there is a risk that user requirements might change after the project has gone to contract, a study to clarify them might be inserted into the acquisition cycle. Secondly, risks may be simply removed by following other plans. For example, if there is a high risk that technology will not be sufficiently mature and the project will fail to deliver within budget and timescale limits, a solution involving a more mature technology might be chosen instead. Thirdly, risks might be accepted. This will often be the case for smaller risks, or those that are so large that other management actions would be impractical or prohibitively expensive. Finally, risks may be transferred to another party. This might be the supplier, for example a prime contract arrangement when the prime contractor accepts the risks of aspects of the project such as dealing with sub-contractors or systems integration, or a third party, usually through insurance. It should be noted, however, that transferring risk will usually involve a premium and that while the management of risk may be transferred to another party, the ultimate consequences of a risk arising—an inability to meet the user requirement within time and cost targets—will remain with the defence establishment.

The result of this process will produce a risk plan – a documented strategy which identifies possible risks, assesses their seriousness and outlines the way in which they will be handled should they arise. The risk plan should be treated as a living document, subject to update and revision as the project matures. Overall, the project's risk level should be steadily reduced as the project proceeds, although new risks will inevitably be identified as the ongoing project reveals more details about the nature of the equipment and/or services to be acquired.

Two final points should be noted. The first is that the identification and management of risk should be seen in a positive light. Problems within a project are inevitable and the earlier they are identified and plans are put in place to deal with them, the more likely it is that the project will succeed. It is important, therefore, that a culture is developed which encourages risk management, rather than one which equates project risks with project flaws.

The second point is that risk has a converse – opportunity. As well as unforeseen events with the potential to damage the project, it is possible that events may arise that will have a positive impact on the project as long as the opportunity is seized in a timely manner. Capturing the likelihood and impact of possible opportunities allows the acquisition team to decide also how these would be handled and puts the team in a strong position to capitalise on any short-lived opportunities that may arise.

Acquiring It – Acquisition Cycles

Introduction

Acquisition cycles provide a structure to manage the acquisition process from the initiation of the project through to the final disposal of project equipment or the termination of project services. They thus support a whole life or 'cradle to grave' approach. They do so by breaking down the overall lifecycle into a series of smaller stages or phases, each of which will be a more manageable piece of work than the overall project. Each phase will include certain defined acquisition processes and require certain outputs or products. Examples from the defence sector include the U.S. Defense Acquisition System[10] and the U.K. CADMID[11] cycle, but there are also many examples from the private sector and from other parts of the public sector.

An acquisition cycle is thus a management framework that attempts to guide the acquisition team through the complex processes of acquisition by capturing lessons from previous experience and established best practice in a set of formal procedures. It also enforces a discipline on the acquisition team that ensures that key issues and questions are addressed in sufficient depth to allow for project success. Further, an acquisition cycle ensures that opportunities are available throughout the project, usually at the end of each project phase, to scrutineers in senior management to review progress and take decisions as to whether a project should be allowed to proceed from one phase to the next. The overall objective of approaching acquisition in this way is simply to provide for a better chance of project success, such that capability shortfalls will be filled with the right equipment, at the right time and cost, and that risk in the acquisition process will be reduced. It should be noted, however, that defence acquisition will remain a complex business, even within the structured framework provided by an acquisition cycle; the design and employment of an acquisition cycle should be seen as a complement to, not a substitute for, skilled acquisition management.

The emphasis of acquisition cycles on the complete project lifecycle reflects the principle that the long-term implications of possible capability solutions—in particular their lifecycle costs—should be taken into account as part of the initial acquisition decision. A whole life approach also means that problems that might otherwise arise later in the project can often be avoided by early investment in the identification and mitiga-

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[10] See United States Department of Defense Directive 5000.1, *The Defense Acquisition System*, May 12, 2003 and United States Department of Defense Instruction 5000.2, *Operation of the Defense Acquisition System*, May 12, 2003.

[11] The acronym is derived from the names of the cycle's six phases: Concept; Assessment; Demonstration; Manufacture; In-service; Disposal. For further details, see the CADMID sections of the Acquisition Management System at www.ams.mod.uk.

tion of project risks. Most contemporary acquisition cycles thus pay particular attention—and devote significant resources—to the early phases of the lifecycle, when possible solutions to capability shortfalls are being evaluated. Under CADMID, for example, the U.K. sets a targets figure of up to 15% of the total procurement costs to be invested during the first two phases of the cycle, the majority of which would be expected to be spent on de-risking.[12]

The overall acquisition process may be divided in any number of ways and individual states have adopted different solutions depending on the characteristics of the acquisition projects they tend to follow. Those few states that develop military equipment, for example, are more likely to adopt acquisition cycles in which development work is treated as a separate project phase; development is a risky business requiring close management attention. Clearly there is less need for this approach in a state that tends to buy its equipment off-the-shelf when development activities will be minimal. A generic acquisition cycle, however, might be considered to include four broad areas of activity, suggesting at least four project phases: defining the equipment and/or services to be acquired, obtaining them, making use of them and disposing of them. These areas are discussed further below.

Defining the Equipment and/or Services to Be Acquired

As has already been noted, deciding what to acquire usually consists of a process of steady refinement in which the various solutions available are studied; and that at some point, responsibility for this process should be handed from the user community to the acquisition community. The point at which this takes place will vary and there is benefit in both communities being involved and working together for a period around the transition; however, it has also been argued above that it is good practice for the acquisition community to decide what equipment and/or services should be acquired according to the overall requirements set out by the user. The activities that define the equipment and/or services might include establishing the requirement for the project, examining conceptual options and choosing a solution defining the requirements for the equipment and/or services in sufficient detail to be communicated to suppliers. Decisions taken at this stage of the project will commit significant project resources; it may thus be wise to break these activities down into two or more project phases, providing review and control points for senior leadership.

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[12] U.K. MoD Investment Appraisals Board Secretariat, *Smart Approvals Guidance*, Version 9.1, June 2005, 'Main Gate' – page 1. The first two phases of the CADMID cycle are 'Concept,' in which options for addressing a capability shortfall are identified, and 'Assessment,' in which they are examined in greater detail and one selected to take forward.

The starting point for these activities is an agreed statement, which formally captures and documents the user's requirements for the equipment and/or services.[13] A range of concepts for how the required capability might be provided to meet these requirements can then be identified and preliminary studies of aspects such as how the capability can be expected to perform in operational conditions, the availability of technology and estimated project timescales and costs can be carried out. At this point, possible trade offs between these aspects can also be considered. The concepts can thus be evaluated and, if necessary, reduced to a more manageable number. At this early stage, the work is most likely to be in the form of paper studies, drawing on the technical and military judgement of the users and project team, or contractors. However, high level operational analysis and applied research and technology resources might also be used to assist with the assessment. It is important, in order to be confident that the eventual choice represents good value for money, that a wide range of possible solutions is evaluated and that creative and imaginative solutions are encouraged. It is also necessary to give parallel consideration to possible acquisition strategies, since these too will be important factors in the selection of the preferred option.

Studies of this nature, which might take place over several iterations at increasing levels of detail and sophistication, will allow the project team to narrow down the concepts that might feasibly address the shortfall and eventually lead to the selection of a single technical option.[14] This should represent the most balanced trade-off among the possible solutions. As such, it might require modifications to the original user requirement (in cases where, for example, high performance requirements suggest that the overall project will not be affordable). These will need to be negotiated and agreed with the user.

It is at this point that the requirement needs to be expressed in a more technical form as the basis for contracting with potential suppliers. Usually this will be in the form of a system specification – a clear and unambiguous statement which contains enough information, in the form of technical requirements, to allow potential suppliers to pro-

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[13] As discussed earlier, user requirements should define those things that are of interest to the end user. They will thus normally take the form of functional requirements (they will define *what* is to be done, not *how* it is to be done) each with appropriate measures (for example, how much, where, for how long); they should not drive the subsequent acquisition activity towards a particular technical solution or prevent the acquisition team from considering trade-offs.

[14] For complex and expensive projects, it might, for example, be appropriate to carry out more detailed systems modelling and analysis, applied research and technology work, or technical demonstration projects. Enough work needs to be done in enough detail in order that the acquisition team can be confident in the decisions taken and confident that risks have been reduced to manageable levels to allow the project to proceed.

pose a solution. However, just as user requirements should be written in a way that they do not drive the subsequent acquisition, so the technical requirement prepared at this stage should not constrain the potential suppliers from offering their own solutions to meeting the requirement. Technical requirements, like user requirements, should be written in terms of what is to be done, and the basis on which it will be accepted, not how it is to be done.

Returning to the example given earlier, we had established that the future users of the man-portable air defence system had identified a set of requirements, which included the size of the area to be protected and the level of confidence that a given set of targets would be destroyed. The technical requirements might define how these user requirements would be measured, the testing or other evidence that would be necessary to demonstrate that the user requirements had been met and the technical standards (for example ISO, Mil-Std) to be applied. As the term system specification suggests, requirements should be specified at the level of the overall system, not the sub-systems (such as radars, missile launchers and command and control systems). The statement of technical requirements should thus not mandate technical parameters such as radar ranges or missile kill probabilities, which would drive the potential supplier towards a particular equipment solution. There are two reasons for this. Firstly, the expertise and knowledge required to make the necessary technical trade-offs to achieve best value for money is more likely to reside with the suppliers than with the defence establishment. Secondly, if the overall system fails to perform as required, it will be very difficult to hold the supplier liable if he has been required to adopt certain technical parameters and not been allowed a free hand in the system design.

Obtaining the Equipment and/or Services

The content of this area of activity will depend on the nature of the project and the chosen acquisition strategy. It might, for example, include some or all of: development activities (the creation of new equipment and/or services to meet the system requirements); the manufacture to order of equipment or the design and creation of service programmes; the procurement of COTS or MOTS products; delivery; and acceptance testing. This area might also thus be broken down into two or more project phases if the complexity of the project suggests that a steadier approach to risk reduction would be useful or that additional management decision points would be wise.

Whatever the nature of the project, however, a key activity in this area will be the selection of the supplier. Some projects will be based around a single supplier; in many cases though, there will be a number of potential suppliers and supplier selection will be achieved through some sort of competition. The technical requirement will need to be communicated to potential suppliers, usually through the issue of an Invitation for Tender or Request for Proposals, the responses of tenderers assessed, a sup-

plier chosen and a contract concluded (see 'Competitive acquisition' above). This area of activity would conclude with the acceptance of the equipment and/or services into military service, according to criteria established in the contract.

Employment of the Equipment and/or Services

This area of activity frequently consumes the largest percentage of the overall project resources, highlighting the importance of taking account of whole life analysis—in particular, lifecycle costing—in the earlier stages of the project. During this part of the project the equipment and/or services will be employed in military service. Activities in this area that fall under the remit of acquisition management might include the consumption of services, the purchase and consumption of spares and consumables and the maintenance of equipment (which may, in whole or part, be a service under the contract), and, usually for equipment developed to meet a requirement, the demonstration of reliability as part of the project's acceptance criteria.

A further key aspect of this area of activity may be the upgrade of equipment as requirements change. Upgrade packages can effectively be considered as smaller projects in their own right and should be handled in a similar way.

Disposal of Equipment and Termination of Services

The final area of activity concerns the conclusion of the project and will involve the disposal phase of the equipment and the termination of services. Termination of services is relatively straightforward and is dealt with according to the terms established in the project contract. The disposal of physical equipment is also relatively straightforward but may involve costs (particularly as environmental concerns may require responsible disposal) or even revenue (for example from sale of equipment, the recovery of waste products for sale, or the retrieval of spares). The point, once again, is that these possibilities need to be considered in advance and built into the overall acquisition strategy.

This is also a useful time to compile an appraisal of the project and its acquisition management lessons (it is good practice to document these as the project proceeds rather than to try to write them at the project's conclusion when much time may have passed and personnel changed). A robust 'lessons learned' process will assist future projects and prevent similar mistakes being made, ensure that acquisition procedures are comprehensive and up to date and contribute to the development of best practice. Undoubtedly, for this process to be successful, it is important that the senior leadership encourages a culture of honesty in which the finger of blame is not pointed at individuals.

Conclusion

There are many ways of constructing acquisition cycles to carry out these broad areas of activity; different states will do so differently according to the nature of the projects they tend to pursue and their formal requirements for management and control. However, two more general points are perhaps worth emphasising. Firstly, much of the discussion above has focused on the earlier stages of the acquisition cycle. The point has already been made several times that decisions at the early stages of the project will have major implications downstream and that investment in ensuring that these decisions are robust will help to reduce overall project risk and lead to greater chances of project success. It is thus important that acquisition cycles include well defined and properly resourced early stages. Secondly, acquisition cycles are not valid simply for complex projects. While acquisition cycles might be abbreviated for simpler projects, the principles they lay down are valid for all projects and the discipline they require is useful for all projects.

Finally, it should be noted that different skills are required in different phases of the acquisition cycle. The earlier phases, for example, focus on identifying the right solution to a particular requirement, while later phases are more concerned with the management of effective project delivery. This suggests that the composition of the acquisition team may vary throughout the lifecycle, a fact that needs to be accounted for in planning for the project.

Project Scrutiny

One of the purposes of acquisition cycles is to allow opportunities for senior management to review the project at appropriate points and to take decisions concerning its future. The purpose of project review is not to allow senior managers to interfere unnecessarily in the day-to-day running of a project but to allow them to be confident that the overall defence programme, and individual projects, are affordable and will deliver value for money over their lifecycle. Acquisition cycles thus provide convenient break points at which senior management can be persuaded that the work required to achieve the aims of each project phase has been carried out in sufficient depth and are able to set guidance and constraints for the subsequent project phase. If high levels of risk are considered to remain in the project, scrutineers can ask for part (or even all) of the phase to be repeated, or additional work to be carried out to supplement the analysis that has been presented to it.

Scrutiny is thus a process that takes place within the defence establishment; it is a separate process from the regular project reviews that should, as an element of good management practice, take place between the acquisition team and the supplier. In order to build consensus around the need for and value of projects, they should be

scrutinised by representatives of most of the project stakeholders, which suggests the need for a senior standing committee with oversight of the entire defence programme. Composition will vary but is likely to include the defence establishment's senior financial officers, planners and senior representatives of the acquisition community and user community. In addition to monitoring project progress, this committee will also be responsible for agreeing to the launch of individual projects.

Aside from project authorisation, there are no fixed points at which scrutiny should be carried out – these will depend, amongst other things, on the acquisition cycle used, the size and complexity of the project and the maturity of the overall defence establishment. While the end of each phase of the acquisition cycle provides a natural break point, it is not necessary for every phase to terminate with formal scrutiny – a set of rules to define when this is necessary needs to be established.

Similarly, there are no fixed requirements as to what should be scrutinised; a set of procedures needs to be defined to establish these too. Certain requirements will come from the scrutineers' responsibility for the overall defence programme – for example, considerations of affordability or the continuing justification of the requirement for a project against other defence priorities. Other requirements will be more closely tied to the individual project; for example, to demonstrate that project risks have been defined and mitigation measures put in place, that the acquisition strategy represents good value for money and that project plans follow best practice. These two sets of requirements indicate that both the acquisition team and the wider defence planning community needs to be involved in the preparation of a scrutiny case.

Concluding Remarks

This chapter has explored some of the issues involved in acquisition management and some of the techniques that may be applied to ensure greater chances of project success. States have chosen to implement these techniques in a variety of ways. There are many advantages to be gained from formalising national approaches to acquisition by selecting the techniques appropriate to local circumstances and documenting them in the form of acquisition regulations or guidance manuals. This will ensure consistency of approach and make it easier to learn lessons from individual projects and to develop best practices.

The main messages of this chapter may be summarised as follows:

- Defence acquisition involves much more than procuring equipment and/or services to meet user requirements. It is a complex activity that should be treated on a whole life basis.
- It is essential that careful consideration is given as to how individual projects will be pursued.

- The management of defence projects can be eased by breaking the lifecycle into a number of discrete phases.
- Investment in the early phases of a project, in particular those activities that define what is to be acquired, will benefit its later phases.
- As acquisition involves finding best value for money solutions to requirements, it should not be constrained by over-specification of requirements.
- Project risk is inevitable, but can be planned for.

Further Reading

Two comprehensive English language reference sources are available through the internet. The U.K. Ministry of Defence's Acquisition Operating Framework[15] can be found at www.aof.mod.uk/index.htm, while the Defense Acquisition Guidebook produced by the Defense Acquisition University of the U.S. Department of Defense can be found at https://akss.dau.mil/dag/welcome.asp. Both allow menu-driven browsing of acquisition issues and include comprehensive search facilities.

[15] At the time of writing, the U.K. is developing the Acquisition Operating Framework (AOF) to replace the Acqusition Management System (AMS) and the content of the AMS is being migrated to the AOF. During this process, which is expected to take around 12 months, the content of the AMS will continue to be available at www.ams.mod.uk.

Chapter 7

Transparency in Defence Management

Willem Frederik van Eekelen

Introduction

Transparency in conjunction with accountability is the essence of democracy. Its application, however, varies greatly, especially in the field of defence and security. Defence is different from other areas of government through the monopoly on the use of force and the existence of a trained military establishment, which has its own views on the best way of safeguarding national interests. The primacy of politics over the military has been widely recognised, but harmonious relations require a balance of trust, in which politicians refrain from attempts at micro-management after they have agreed strategic documents and mandates and the military accept to be accountable for the way they implement them. This is particularly important for the conduct of peace support operations, where modern communications tempt the leadership at home to follow every decision of the field commander. But it is also important for the less visible issues of defence management.

Defence is also different from other government departments because of its emphasis on the long haul. Planning should be based on a rolling forward plan for 10 years or more but with sufficient flexibility to take account of unforeseen developments and for delays in the realisation of specific items. Other spending departments do not have the same ratio between investment and running costs as defence, which in many ways resembles a commercial company in its activities. The most difficult area

in civil-military relations is the allocation of resources, which usually are deemed inadequate by the military for the execution of their tasks, but have to be evaluated by the political bodies in the competition for money with other departments. In the end, politics will prevail, but in a way in which the final responsibility for adequate forces will lie with the politicians in Cabinet and Parliament.

In the U.S., in the early 1960's, Secretary of Defence Robert McNamara introduced a Planning, Programming and Budgeting System (PPBS) to relate budgets to military missions. His attitude boiled down to the principle that if his 'whiz kids' analysts could prove that a particular weapon system was needed, he would provide it. PPBS was intended as a system that would help the Secretary of Defence in making choices about allocating resources among competing programmes for accomplishing specific national defence objectives. Its ultimate goal was to provide operational commanders with the best mix of forces, equipment and support attainable within fiscal constraints.

As a system, PPBS has had its ups and downs but remains a valuable tool for justifying budget proposals by clarifying what they intend to deliver in terms of the quantity and quality of goods and services and by defining resource allocations based on expenditure levels appropriate to achieving the planned objectives. At the end of the planning cycle it will also be possible to determine whether what has been achieved has been worth the cost. In this manner the system provides an important underpinning for transparency and accountability with regard to parliament and public opinion.

McNamara had the advantage of growing defence budgets, which allowed him to honour established priorities. At times of shrinking budgets, however, PPBS tends to produce lists of unfunded priorities, which can be realised only when other programmes are delayed or specific allocations become available. In Europe, countries like Germany and Romania have experience with making defence plans that could not be realised within available and anticipated defence budgets.

A major task of the Chief of Defence Staff is to produce a consolidated plan, incorporating the requirements of the services within the available and forecasted financial resources. He should be the 'corporate planner' who gives everybody in the system a fair share but also does not shy away from tough decisions. That remains one of his most difficult jobs, ever more thankless when cuts have to be made. Then his attention shifts to the 'posteriorities,' the activities which could be abandoned with the least damage to the overall defence effort. Usually, their consideration is subject of considerable bickering, for a posteriority for one might be an unacceptable cut for others.

Defence inherently being a matter of the long haul, planning should be based on consensual documents defining the strategic interests of the country and the means to protect and enhance them. Ideally, these papers—usually in the shape of a White Book or a Defence Note—should be drafted with a period of ten years in view, but allowing for updates at the beginning of a new legislative period. They should establish

the structure of the defence forces and their tasks and include multi-annual budgetary planning, at least in an indicative manner, in order to allow for continuity and consistency. Equally, they should define international commitments and the criteria for participation in peace support operations (PSO).

In principle, accountability in defence and security should resemble general practice throughout the government, particularly by providing an adequate level of budget detail, but there are obvious exceptions. Although it should be possible to indicate budgetary lines for the intelligence services, details of their work will have to be kept confidential. That need is enhanced by the coalescence of internal and external security, largely on account of the emergence of terrorist groups and organised crime. Currently, we are all faced with the dilemma of simultaneously maintaining individual liberty and public security, which has an implication for the administration of justice but also for the application of transparency in the conduct of government business.

Accountability applies politically to the relationship with parliament and financially to the national Court of Auditors (called also National Audit Office or Chamber) and internal accounting procedures within the Ministry of Defence. In many countries we now have Public Information Acts, which allow individuals, but more often the media, to seek information on policy decisions and the way they have been arrived at. These are important supplements to written and oral questions that parliamentarians can ask and round off the basic elements of parliamentary democracy. Governments should reveal, explain and justify their policies and plans. They should reveal what they want to do and explain and justify them publicly in a debate, both in parliament and in the media, where their priorities are assessed and possible alternatives evaluated. The more transparency and accountability, the better the chance of maintaining public support for the military.

A crucial element in civil-military relations are the established procedures also with regard to parliamentary scrutiny. Both sides should be clear as to what information they are entitled to expect and to supply and how parliamentary committees will deal with it. Among NATO member countries, the budgetary and legislative sides are fairly well taken care of but in the field of policy, great differences remain.

The Rule of Law

Application of the rule of law has become a major criterion for judging the democratic character of a state and its eligibility to join organisations like NATO and the European Union. Of course, laws are important but the way they are arrived at is even more important. Autocratic systems also produce laws but they have little or no legitimacy in comparison with the legislation of pluralistic democracies. The ‘role’ of law is to protect the security, property and human rights of the citizen, to provide a basis for settling

disputes peacefully and to restrain the use of political power by subjugating government authorities to the law. Elements of a complete system of rule of law are:

- An independent judiciary
- Independent human rights institutions
- Government powers that are determined by the Constitution and/or laws
- Free and fair elections
- Transparency and accountable access to political power
- Police and detention systems whose powers are defined precisely by laws
- Military and security systems that function under the law
- Access to justice through competent and affordable lawyers, and no prohibitive levies or delays which discourage seeking justice.[1]

In addition to these elements, Voorhoeve distinguishes eight different functional requirements which have to be met:

- All laws are applied equally to all citizens, without discrimination based on legally irrelevant personal or group differences among the citizens
- The right to fair trial is guaranteed to all
- There is no arbitrary detention, no torture and cruel, inhumane treatment of detainees/ prisoners
- All laws are openly promulgated and can be scrutinised by the citizens and their legal aids
- There is no retrospective application of penal laws
- The judiciary is professional, intellectually independent and impartial
- Authorities derive their powers from laws; their policies, decisions and implementation are also under the law
- All law enforcement agencies are given adequate means to perform their tasks.

[1] See Joris Voorhoeve, *From War to the Rule of Law. Peace Building after Violent Conflicts*, Scientific Council for Government Policy/WRR/(Amsterdam: Amsterdam University Press, 2007), 91-92.

Parliaments, Defence Policy and New Missions

Operations

After the end of the Cold War, collective defence did not remain the overriding priority and the focus of attention shifted to either the new linkage between internal and external security or to the demands of peace support operations. Decision making on participation in peace support operations became more political and the military profession not only became more dangerous but also multi-faceted. Starting with operations in the Balkans, the military had to assume many new functions, ranging from diplomacy and mediation to administration and development, which placed new demands upon their training and coordinating abilities. Both at home and in the field, new management structures had to be created to deal with the multitude of new players, including large numbers of nongovernmental organisations (NGOs).

On an invitation by the European Parliament, DCAF recently conducted a study on the manner in which national parliaments are involved in decision making with regard to peace support operations and distinguished several models and best practices.[2] Among others, the report identifies the establishment of legal provisions for authorising expenditure related to deployments abroad, which might take the form of a financial ceiling, a troop limit (e.g., currently Spain sets a ceiling of 3000 troops, Finland of 2000 and Lithuania of 420 troops) or a geographical restriction as a good practice. Parliaments should also insist on full ex post accountability concerning money spent on the mission and an assessment of its results. This should also be requested from the UN, NATO and the EU.

The military profession has changed as well. It has become more dangerous, more demanding in terms of absence from home and more multi-faceted in having to deal with the whole spectrum of conflict, stabilisation and reconstruction. This means that a Ministry of Defence will have to devote much more time to training for an expanded set of duties but also in explaining the purpose and conduct of an operation, which is taking place far away in unfamiliar lands and likely to be of long duration before tangible results can be achieved. Special care will have to be given to contacts with the home front of the soldiers and to dealing with stress symptoms of returning personnel. The more the military have to act in the role of the 'guardian soldier' in peace support operations, the more they are entitled to maximum attention to their physical safety. On

[2] See Hans Born, Alex Dowling, Teodora Fuior, and Suzanna Gavrilescu, *Parliamentary Oversight and Civilian and Military ESDP Missions; The European and National Levels*, EP/EXPOL/B/2006/38 PE 348.610 of October 2007. The report analysed in particular four ESDP missions *EUFOR Alhtea, EUFOR DRC, EUPM BiH, EUBAM Rafah.* It was discussed by the Sub-committee on Security and Defence (SEDE) of the European Parliament in a workshop on 11 February 2008.

the whole, our populations have accepted that operations in Iraq and Afghanistan will entail casualties but with every dead body they will also want to know more about the purpose and rationale of the action and whether the share their country takes is proportional to the efforts of others.

Defence has also become more political. In collective defence, the military would have taken the lead but peace support operations have a predominant political component. This is also reflected in the new dimension of contacts with the media. During the Iraq operation of 2003, journalists were 'embedded' with the fighting forces but in the subsequent phase of guerrilla warfare and roadside bombs they were able to roam around more freely, sometimes at their peril. In doing so, they obtained stories and impressions of their own concerning the nature of the conflict and the way in which our soldiers are doing their job, which in turn will impact on domestic support for the operation. What happens today will be on our television screens at home in the evening. Consequently, transparency with regard to the media, both at home and to their correspondents abroad, also on negative experiences acquires a new significance for maintaining the credibility of our policies.

Privatising Defence Functions

Transparency has become more diffuse with the increasing tendency to privatise functions within the defence establishment, functions which in the past were regarded as belonging to their core business. The downsizing of the armed forces has led to a concentration on combat capability and the conclusion, sometimes mistaken, that certain functions would not require permanent availability under operational conditions and could more cheaply be delegated to private companies. Examples are to be found in the field of catering and logistics but also in private security companies. The same phenomenon occurs elsewhere in government, where political decisions to reduce the number of officials usually led to the creation of other implementing agencies and consultancy contracts. In defence, privatisation ranges from catering, maintenance and logistics to private security companies performing guard and surveillance duties. DCAF has done important work on this subject and particularly on the question of who is responsible if things go wrong.[3] A rule of thumb should be that the defence organisation remains accountable. In terms of possible corruption there is a double problem: the awarding of the contract might have been subject to preferential treatment and the company selected might resort to corrupt practices in the conduct of its business.

[3] Fred Schreier and Marina Caparini, *Privatising Security: Law, Practice and Governance of Private Military and Security Companies*, Occasional paper No. 6 (Geneva: DCAF, 2005).

Implementation Challenges

A major shortcoming in many parliamentary democracies is the gap between legislation and implementation. Governments draft laws, parliaments amend and approve them, but few pay any attention to the way they are implemented in practice. Did they reach the results intended and, if not, why not? The Netherlands parliament devotes a Wednesday in May to reviewing progress in spending the budget for the purposes earmarked, popularly known as 'minced meat day' because of the many anomalies it reveals. This indicates how difficult it is in a complex economy to plan and budget properly. It is even more difficult to assess the long-term effects of legislation. Much is to be said for sunset-clauses or for periodic reviews to improve or repair weak points. The need for such assessments is increasing on account of the competition between political parties, which after each scandal or accident clamour for new controls, often based on headlines in the morning papers. Some sound thinking seems to be in order, for ultimately the citizen will be more interested in a balanced approach in which bureaucratic controls are kept to a reasonable minimum. Ideally, the solution would be to aim for self-regulation among the professional organisations involved.

Parliaments and Procurement

A particular problem in defence spending is the need for equipment to be sturdy and long lasting, sometimes up to forty years. This means that new purchases have great implications for the future of the armed forces, which militates in favour of equipment having growth potential and being able to be updated in 'mid-life modernisation' programmes. Equally important is the assessment of 'life cycle cost' in comparing alternative equipment solutions. Here transparency becomes particularly important, for the full cost of new equipment should be revealed, including necessary adaptations in infrastructure, spare parts, personnel and training. It is simply not sufficient to count only the cost of the new hardware. But who will be the judge of these calculations? It cannot be left only to the service which requires the new armament but rather in combination with the second opinion of an independent body.

Another consequence of the lengthy life cycle of military equipment is the long-term claim an individual decision places on future defence budgets. This impact is even greater where major purchases are concerned, which are not delivered and paid for in a single year and may be stretched over a decade or more. Then parliamentarians will need to watch closely how much money is available for new spending. In the recent past we have seen examples in Germany and Romania of defence plans which exceeded future budgets.

Defence procurement is never a single decision but involves several stages. Starting with a national strategic concept or similar policy document, military requirements have to be formulated and priorities defined among proposals from the different ser-

vices. A budgetary envelope for the life cycle costs of the project will be defined. Then the market has to be explored to see whether the equipment sought is readily available or will have to be developed or modified. Exploratory contacts with suppliers follow and a short list of possible alternatives will be drawn up. Negotiations will follow regarding price, delivery schedules and compensation arrangements, which will emanate in a preferred choice with whom detailed contract negotiations will be conducted in order to clinch the deal. Each of these steps lends itself to transparency and parliamentary scrutiny.

Military requirements are the outcome of a process in which past experience, new strategic and tactical insights, new technological possibilities and the capacities of potential adversaries are taken into consideration. Operational research and war-gaming have become new tools. The process usually starts with the plans and policy section of the staff of the armed service concerned but the need for integrated force planning tends to increase the role of the Defence Staff. In the past, a weak spot used to be the insufficient contact between the various sectors: operational, research and technology and procurement. It became clear, therefore, that internal transparency was as important as external transparency.

The NATO defence planning process had the great advantage that the Supreme Allied Commander formulated Force Proposals as guidance for national planning with the aim of building a coherent collective defence. Today, that aim remains but has largely been superseded by a selective approach to international crises, leading to the formation of 'coalitions of the willing' within or outside the Alliance. Defence policy not only has become an element of security policy but also lost an important cohesive element by the uncertainty with whom peace support operations would be conducted. As a result, the incentive of multilateral standardisation of equipment did not get the push originally anticipated. At the same time, the new demands of intervention and more recently of asymmetric warfare have made it very difficult to quantify future requirements. Flexibility and mobility became new catchwords, which are difficult to translate into objectively justifiable needs. Much depends on the level of ambition countries set for themselves and their willingness to take responsibility for operations, which were not directly aimed at defending territorial integrity and independence. Moreover, the increased threat of terrorism has had the double effect of linking internal and external security and deflecting the emphasis on high-tech capabilities in a process of transformation. Soldiers on foot had to risk their lives and needed protection against mines and other explosive devices. Several countries had to change their procurement programmes drastically in the light of new experience, which included heavy wear and tear on equipment.

A Model Sequence of Defence Procurement

The degree of parliamentary involvement in procurement decisions varies greatly. Germany excels in a line-by-line examination of the budget. The Netherlands has adopted a model sequence for the entire process, from start to finish. The first communication is sent to parliament when the operational requirement has been defined in general terms: the type of equipment, a general indication of the numbers needed in replacing old equipment, the estimated cost of the project and how the expenditure would be spread over the years.

Once the Defence Committee 'takes note of the document,' which means that it is not rejected, the next phase concerns preparatory studies on a number of subjects. The operational requirements have to be translated into technical specifications. The market has to be explored and an exhaustive list of all possible suppliers drawn up. If there is nothing available in the near future, plans have to be drawn up for a development phase in cooperation with industry and, where possible, with other interested countries.

The third step is a thorough study of the information provided by interested suppliers. Are they able to meet the specifications or do they suggest alternative ways of meeting the requirements? Is their equipment in use by other countries and what is their experience regarding performance? What are the possibilities for co-production and offset arrangements. The study should lead to a short-list of alternative suppliers.

The fourth phase concerns preparations for the acquisition on the basis of negotiated offers, possibly accompanied by field trials. The armaments directorate will compare them on the basis of a range of criteria. If several offers meet the criteria, other elements will be introduced in the comparison, like gradations in military effectiveness and safety of personnel. Concurrently the Ministry of Economic Affairs will negotiate co-production and, when necessary, compensation outside the project concerned. Over time, parliament has become more demanding and insists on compensation contracts with domestic industry for every defence dollar or euro spent and sometimes even more. In this phase some of the information might be classified, especially when it concerns weapon characteristics. The need for secrecy should not be exaggerated, however, as most of the information parliamentarians need can be found in professional journals. If there remains a need to know, confidential briefings will be arranged.

The final phase, the decision, is subject to intense lobbying, involving media, parliamentarians and think-tanks. Decision makers are invited to visit factories or attend demonstrations. This is also the phase in which everybody has to be extremely careful not to accept favours that might be seen as influencing their judgment. Practice varies how authority is obtained to sign the final contract, sometimes preceded by a letter of intent. In the Netherlands, contracts below € 5 million are left to the service concerned. Up to € 25 million, the projects have to be included in the overall defence plan submit-

ted by the Chief of the Defence Forces to parliament in his role of corporate planner. Between € 25 million and € 100 million, the requirement has to be approved by the parliamentary committee, but further execution is mandated to the service, unless the project has been qualified as 'politically sensitive.' Contracts of higher value need parliamentary approval before signature; above € 250 million they require approval by the full Cabinet before they are submitted to parliament.

A model sequence along the above lines is practiced in only a few NATO countries. The record is not bad in terms of scrutinising legislation but less favourable on controlling the executive. Only in Germany, the Netherlands, Norway, Poland and the U.K. the Minister of Defence was obliged to provide information to the Defence Committee on procurement decisions above a certain amount. In all these countries except the U.K. he needed parliamentary consent to conclude the contract. Involvement of the committee in specifying the need for new equipment is provided for in Canada, the Czech Republic, France, Germany and the Netherlands. This extends to the comparison of offers and the selection of a producer in the Czech Republic, the Netherlands and Norway. Only the Czech and Netherlands parliaments reported involvement in the assessment of compensation and offset arrangements.[4]

Closely connected with the quality of parliamentary scrutiny is the availability of qualified professional staff. Rarely do parliaments instigate research of their own to challenge official views, although hearings are organised more frequently. Only the French and German parliaments have people in their research services who work specifically on defence subjects and assist the members of parliament.[5]

International Frameworks, Sources of Information and Expertise

Since often parliaments do not have staffers for defence and security, they will rely heavily on the monitoring work and analysis of independent institutes, think tanks and non-governmental organisations. At the international level, the *SIPRI Yearbook on Armaments, Disarmament and International Security* has established itself over the years as an indispensable tool for following military expenditure, arms production and international arms transfers. The *Military Balance* and the *Strategic Survey*, published by the London-based International Institute for Strategic Studies (IISS), are equally im-

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4 See Willem F. van Eekelen, *Democratic Control of Armed Forces – The National and International Parliamentary Dimension*, Occasional Papers No. 2 (Geneva: DCAF, 2002) and Willem F. van Eekelen, *The Parliamentary Dimension of Defence Procurement: Requirements, Production, Cooperation and Acquisition*, Occasional Papers No. 5 (Geneva: DCAF, 2005). Both reports are available for free download at www.dcaf.ch. The first one presents parliamentary responses to a questionnaire. Other parliamentary procedures might have evolved since.

5 See Van Eekelen, *The Parliamentary Dimension of Defence Procurement*, 13-14.

portant. The EU Institute for Security Studies in Paris publishes an impressive array of *Chaillot Papers* and *Occasional Papers* on issues connected with the Common Foreign Foreign and Security Police (CFSP) and brings together the directors of the many national institutes in an annual 'State of the Union' meeting with Javier Solana.[6] DCAF has extended its original scope of democratic control of armed forces to the wider issues of security sector reform and good governance. Its handbook for parliamentarians and the sourcebook on defence institution-building devote considerable attention to transparency and accountability in the processes of arms procurement. Among the NGOs, Transparency International and SaferWorld should be mentioned.

The European Council established the European Defence Agency (EDA) in 2003 with the following objectives:

- To contribute to identifying member states' capability objectives and evaluating observance of their commitments
- To promote harmonisation of operational needs and the adoption of effective, compatible procurement methods
- To propose multilateral projects, ensure coordination and manage specific programmes
- To support defence technology research and coordinate and plan joint activities and the study of technical solutions meeting future operational needs
- To contribute to identifying and, if necessary, implementing any useful measure for strengthening the industrial and technological base of the defence sector and for improving the effectiveness of military expenditure.[7]

In the three years of its existence EDA has produced some positive results. The European defence market has been facilitated by the publication of a bulletin of national plans and tenders but trans-border tendering remains very limited. A voluntary code of conduct aims at reducing the impact of Article 296 of the Treaty on European Union which excludes defence material from the EU internal market. Unfortunately, on research EDA was a near-failure. Before the end of its activities, the precursor of EDA, the Western European Armaments Group, had joint projects for € 300 million running but these have not been continued. The joint investment programme only amounted to

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6 See Burkard Scmitt, *European Arms Cooperation, Core Documents*, Chaillot Papers No. 59 (Paris: ISS, April 2003) and Burkard Scmitt, *The European Union and Armaments. Getting a Bigger Bang for the Euro*, Chaillot Papers No. 63 (Paris: ISS, August 2003).

7 See Willem F. van Eekelen, *From Words to Deeds. The Continuing Debate on European Security* (Brussels/Geneva: CEPS/DCAF, 2006), and in particular Chapter 7 "Towards an EU Armaments Agency."

€ 54 million and gave rise to discontent over the rules of the game as far as intellectual property was concerned.

The European Commission—Commissioners Verheugen and McCreevy—announced two directives: one to regulate the rest of the market, which did not fall under a limited interpretation of Art. 296, and one to facilitate transport from one EU member country to another. The Commission repeated that restructuring of the European Defence Equipment Market was essential if it was to survive in a globalising world. It will be interesting to see how the European parliament will deal with these directives. Several countries, including France and the U.K., dispute the competence of the European parliament (and of the European Commission) to deal with intergovernmental issues like the Common Foreign and Security Policy and the European Security and Defence Policy. High Representative Javier Solana regularly keeps the Parliament informed but debating these issues remains a delicate matter. Draft directives from the Commission will be another matter. The Assembly of the Western European Union (WEU) remains the only functioning body of the WEU since the Treaty of Amsterdam transferred its functions to the EU. Its reports continue to be of high quality but the absence of a dialogue with a Council has placed the Assembly in limbo. Consequently, parliamentary scrutiny of the CFSP and the European Security and Defence Policy (ESDP) is rudimentary, which poses the question: who controls them?

Corruption

The American scholar Joseph Nye defines corruption as:

> Behaviour which deviates from the normal duties of a public role because of private pecuniary or status gains; or violates rules against the exercise of certain types of private-regarding influence. This includes such behaviour as bribery, nepotism and misappropriation.[8]

Corruption concerns both the breach of rules governing public office and the infringement of non-codified, widely accepted ethical norms. Some of these norms develop over time, such as the illegality of party financing. Alternatively, it is possible to give a more market-oriented definition as an exchange of money for decisions (the asset), which private actors seek to acquire (demand) and public agents are willing to sell (supply) by avoiding being caught (liability). A third approach focuses on the public interest and sees corruption as deviant behaviour which subjugates public interests to private gain. Corruption grows where public ethics have degenerated, where there are

[8] Joseph S. Nye, "Corruption and Political Development: A Cost-Benefit Analysis," *The American Political Science Review* 61, no. 2 (June 1967): 417-427.

no clear rules through which the public interest is pursued and where public or private activities lack proper modes of regulation guaranteeing due process and fairness.[9]

Corruption is a transnational and global phenomenon, which poses a latent threat against orderly government and the rule of law. It channels resources intended for public purposes into private pockets and seriously distorts decisions and daily actions by government officials. Corruption is often associated with the buyers of equipment and the recipients of development aid but it also is a serious weakness among many suppliers and donors. The prevention of corruption has been recognised as a responsibility of all states, non-governmental institutions and private companies. The UN Convention against corruption of 2003 was signed by 140 states and entered into force after ratification by 30 of its signatories. It regulates recovery and restitution of assets which have been acquired through corruption, but obviously the proof of the pudding remains in the eating, i.e., the vigorous application by the signatories and their legal systems.

At the Doha ministerial conference of the World Trade Organisation in November 2001, ministers recognised the case for a multilateral agreement on transparency in government procurement and agreed that negotiations would take place after the Cancun conference of 2003 "on the basis of a decision to be taken, by explicit consensus, on modalities of negotiations." The developing countries made clear that these negotiations should not restrict the scope for countries to give preference to domestic supplies and suppliers. At Cancun, no agreement was reached on the start of the negotiations and the matter was referred to the General Council, which in August 2004 agreed that this issue would not form part of the Doha Work Programme and therefore no negotiations would take place during the Doha Round. Since this decision the Working Group on Transparency in Government Procurement, formed in 1996 at the Singapore conference, has been inactive.

Good governance implies transparency in decision making and a minimum of corruption. The two go hand in hand but the two are not synonyms. Before the start of the European Economic Community there was a common saying in the north of Europe that south of the 'olive border'—the line south of which olives were grown—different morals applied in terms of applying rules and paying taxes. Corruption is more engrained in some societies than in others. In some it is quite normal to pay for services rendered even if they concern the regular task of the person involved. Those differences became evident in the processes of enlargement of NATO and the EU. Shortly before their entry into the EU, the European Commission concluded that corruption was engrained in Poland and was a serious problem in Latvia and the Czech Republic.

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9 See Yves Mény and Luís de Souza, "Corruption: Political and Public Aspects," in *International Encyclopedia of the Social & Behavioral Sciences*, ed. Neil J. Smelser and Paul B. Baltes (Oxford: Elsevier, 2001), 2824–30.

The accession of Romania was very nearly held up altogether because of deficiencies in the administration of justice. Bribes to poorly paid policemen in an attempt to avoid being fined are common practice in many countries.

Any institution, governmental or otherwise, with substantial outlays for goods and services is liable to corruption. It might take the form of kickbacks on the contractual payments, 'commissions,' payments under the table that do not figure on the bills, favours outside the contract like holiday trips or other services, payments to political parties and outright payments to sway the decision of influential individuals. Large scale corruption often takes place indirectly, through agents or other intermediaries, thus avoiding direct contact between supplier and buyer. There is no limit to human inventiveness and brinkmanship in finding ways to influence acquisition processes without being in outright conflict with the law. Therefore, clear rules are necessary on what is allowed and what is not and where officials should draw the line in their contacts with suppliers.

There is no indication that people working in the field of defence are more prone to corruption than those in other government departments but the defence budget is so large and involves so many people that corruption is common. Petty corruption seems to be more a problem for the police than for those working in defence as the police are in closer contact with the general public. One area where officials and citizens meet in the area of defence is conscription and consequently corruption occurs in obtaining exemptions or deferrals or more attractive assignments. Similarly, defence officials might engage in commercial activities on the side by selling military goods for personal gain. But, unlike some colleagues in other governmental acquisition departments, defence personnel will not easily cheat on quality and durability of equipment, which might become a matter of life and death for their colleagues. Moreover, accountability has been regulated carefully, often in excruciating detail, and most defence departments have a special office within their procurement division to screen acquisition processes. To work effectively and without pressure on the career perspectives of their personnel, those offices will need to have an independent position outside the line of command.

The problem of corruption lies more in the lobbying by defence industries, which depend on obtaining major contracts for their very existence. Such contracts are few and far between, sometimes claimed to constitute the 'buy of the century,' but always the result of innovative and costly research and development. Much is at stake and sales campaigns are aggressive, both at the technical and political levels. Competition

is particularly fierce when several offers meet the requirements and the decision will be swung by additional elements, including foreign policy considerations.[10]

How should the political leadership and parliamentarians position themselves in this battle for honesty? Parliamentarians and leaders need as much information as possible but they should avoid being unduly influenced by any of the competitors. In a tendering process, all potential suppliers should get equal treatment, at least initially. The political leadership of the department should avoid direct contact with their agents but a minister or state secretary in charge of procurement should be allowed to visit a factory provided he visits all of the serious competitors. Parliamentarians are more free in their contacts but it would still not be wise to visit production facilities on their own. In order to avoid any improper approaches, it would be better to organise visits by Defence Committees or at least for an individual to be in the company of defence spokesmen from other political parties.

Under a district system parliamentarians lobby for their constituency and important industrial activities located therein. In the U.S. this results in riders being attached to Defence appropriation bills, in other cases the pressure might be more discreet. To withstand such lobbying, which always concerns the preservation of jobs, ministers and their senior advisers will have to make a thorough analysis of quality and cost of their preferred solution if they have a chance of persuading parliament.

Fighting corruption has to focus on both the individual and the organisational level. Individual morality can be influenced by education, which should instil a sense of values at an early age. Organisations and corporations should establish codes of conduct and clarify what they could accept from a supplier: a cup of coffee, a luncheon, a Christmas present, or nothing? Important progress has been made through the development of a code of police ethics.[11] It should become a major item of the curricula of police academies, so that each individual officer internalises value judgments. In training, they should be confronted with concrete cases of moral dilemmas. An inter-

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[10] Transparency International makes the point that more than half of defence contracts are placed without competition, which usually means that the buyer does not get the best possible deal. Competition certainly will enhance transparency but it is doubtful whether it will reduce corruption. Moreover, several countries support their 'national champions' in a process of consolidation deemed necessary for their survival.

[11] Appended to Recommendation (2001)10 of the Committee of Ministers of the Council of Europe, adopted on 19 September 2001. Paragraph 19 of the Code reads: "Police organisations shall be ready to give objective information on their activities to the public, without disclosing confidential information. Professional guidelines for media contacts shall be established." Paragraph 20 says: "The police organisation shall contain efficient measures to ensure the integrity and proper performance of police staff, etc." The Code does not define integrity, nor does it mention corruption. Such elaboration is left to the individual police corps.

esting case is the following: a commissioner of police is engaged in building an extension to his office. At the same time, his wife wants a new kitchen. Would it be proper to have the same contractor do both jobs? Most people would answer no, because they would be suspicious of the price asked for the kitchen. But then a new element is introduced in the setting: both jobs have to be done by a contractor with security clearance and unfortunately there is only one contractor in the area who possesses such a certificate. Would this change your opinion and, if so, what safeguards could be applied to avoid any semblance of inappropriate connections? Of course, under normal circumstances, tendering for the jobs would be an established procedure. The point of such a case-based approach is that most people only become aware of complexities when they are taken through a logical process on the margins of good and bad practices. This approach is also applicable to training defence professionals.

Concluding Remarks

The shift from collective defence to peace support operations has had a great impact on attitudes towards defence and security. Two factors militate in a positive sense: firstly, the increased link between internal and external security as a result of terrorism, organised crime and illegal immigration and, secondly, recognition of the need for a minimum security before development or reconstruction can be undertaken successfully. More problematical is the inherently selective character of the national decision-making processes concerning participation in peace support operations. As a result of low preparedness to participate in risky operations, there are currently insufficient forces available for the International Security Assistance Force (ISAF) operation in Afghanistan. Still worse, the varying conditions under which forces are contributed makes 'constraint management' a continuing headache for the commanders. Although it will not be necessary for all members of NATO or the EU to join in every operation, some scenario planning should be necessary in order to be able to react quickly to a crisis. The treaty of Lisbon might do that on the EU side and after the Bucharest summit of NATO a new strategic concept for the Alliance might be forthcoming under the new U.S. administration. At the national level, the decision to join an operation will require ever more careful preparation of public and parliaments. Adequate information and briefings of the relevant parliamentary committees is called for. On this point, many European countries still have a long way to go. Most of them have adequate procedures for the budgetary and legislative processes but many parliaments lack involvement in policy decisions. Yet, adequate information by way of frequent situation reports and briefings will be essential to prepare public opinion for the likelihood that most operations will take longer than originally anticipated and will be more costly in human lives and resources.

Finally, the international community will have to do better in coordinating the multi-

tude of governmental and non-governmental organisations involved in crisis management. Our current way is not the most cost-effective and is bound to lead to criticism of wasted resources. Both NATO and the EU will have to update their strategic concepts, which date from 1999 and 2003 respectively. The EU has concepts for Security Sector Reform but neither NATO nor the UN has one. The lessons from Iraq and Afghanistan are that right from the start of a military operation plans have to be ready for the subsequent phases of post conflict stabilisation, reconstruction, development and security sector reform.[12] These should not be seen as consecutive activities but integrated in a comprehensive approach from the beginning. Otherwise, our efforts are doomed to have temporary effects only and crises are bound to flare up again. This comprehensive approach should be reflected in the work of our governments and parliaments, bringing together the strands of security – military and police, justice, reconstruction and development. Thus we have a chance to muster continuing support for our defence establishments.

[12] Another notion obtaining currency is that of the 3 D's, standing for 'Defence, Diplomacy and Development,' which needs some further explanation. In this context 'Defence' should stand for the military role in the conflict phase and 'Diplomacy' for the wider area of negotiations, stabilisation and laying the foundations for good governance. Interested readers may find details in Robbert Gabriëlse, "A 3D Approach to Security and Development," *Connections: The Quarterly Journal* 6, no. 2 (Summer 2007): 67-73.

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