

Spring-Summer  
2006

# Connections

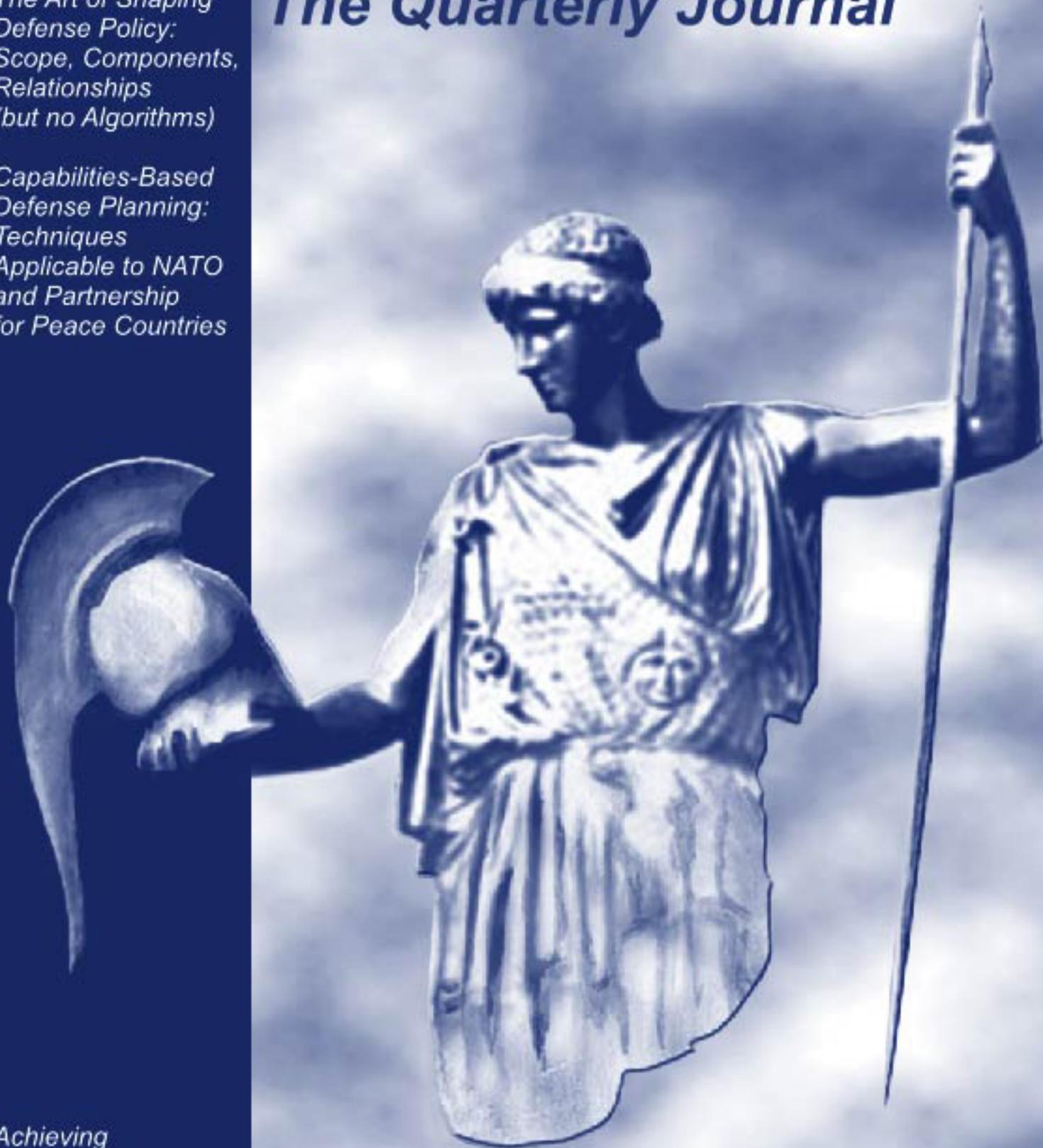
*The Quarterly Journal*

*The Art of Shaping  
Defense Policy:  
Scope, Components,  
Relationships  
(but no Algorithms)*

*Capabilities-Based  
Defense Planning:  
Techniques  
Applicable to NATO  
and Partnership  
for Peace Countries*

*Achieving  
PAP-DIB  
Objective  
Capabilities by  
Transforming  
the Way We Think*

Partnership for Peace Consortium of Defense  
Academies and Security Studies Institutes



# CONNECTIONS

## *The Quarterly Journal*

Volume V, Number 1

Spring-Summer 2006

---

<i>Editorial: Planning and Development of Defense Institutions in a Time of Transformation</i> .....	1
<i>Thomas-Durell Young and Todor Tagarev</i>	
DCAF's Activities in Support of Effective and Democratically Transparent Defense Planning .....	5
<i>Philipp Fluri and Eden Cole</i>	
The Art of Shaping Defense Policy: Scope, Components, Relationships (but no Algorithms) .....	15
<i>Todor Tagarev</i>	
Capabilities-Based Defense Planning: Techniques Applicable to NATO and Partnership for Peace Countries .....	35
<i>Thomas-Durell Young</i>	
<b>Introduction to Program-Based Defense Resource Management .....</b>	<b>55</b>
<i>Todor Tagarev</i>	
Twenty-First Century Defense Acquisition: Challenges and Opportunities .....	71
<i>Elisabeth Wright</i>	
Measuring Defense Reform: A Proposed Methodology to Measure Efforts to Achieve the Objectives of PAP-DIB .....	81
<i>Thomas-Durell Young</i>	
Achieving PAP-DIB Objective Capabilities by Transforming the Way We Think ..	85
<i>Scott E. Jasper</i>	
Defense Institution Building: Training in Support of Defense Planning .....	103
<i>Hari Bucur-Marcu and Cătălin-Marius Târăncop</i>	

# Introduction to Program-Based Defense Resource Management

*Todor Tagarev* \*

The Partnership Action Plan on Defense Institution Building (PAP-DIB) supports Partner countries in developing and implementing transparent procedures for the effective allocation of defense resources. These are procedures that can allow decision makers to relate decisions on security policy, defense requirements, and resource allocation. A considerable number of NATO member countries use program-based defense resource management—some in combination with capability based planning—as one of the main tools supporting the effective implementation of their security and defense policy. Other member countries do not use the explicit term “program-based,” but nevertheless implement the same principles of transparency and accountability in their approach to defense resource management.

This essay examines the principles and practices of program-based defense resource management, which, as will be shown below, equates to program-based force development. It starts with outlining the reasons behind the use of *programming*, and then looks at several key topics structured around two main themes:

- What is a good program decision, and how does it depend on the design of a program’s structure?
- What are the key activities in the defense-resource management *process*, and what are the connections between them?

The essay will then briefly examine some of the major implementation challenges usually encountered by new NATO members and Partner countries, and concludes with an outline of the links between program-based defense resource management and defense institution building.

## Rationale for Program-Based Defense Resource Management

Nations spend money on their armed forces with the intention of guaranteeing the security of their territory, their citizens, and their allies against a certain spectrum of risks and threats. What is important, however, are not the armed forces in themselves, but the capabilities they provide for the implementation of the country’s security policy.

Therefore, in assessing resource management systems and practices, an observer can relate resource allocation decisions to policy decisions. A typical question is how resource allocation decisions lead to the realization of the country’s security and defense policy objectives. A particular aspect of this approach is the “output orientation”

---

\* For information about the author see p. 15. This article reflects research on project SfP 981149 “Operations Research Support to Force and Operations Planning in the New Security Environment,” sponsored by NATO’s Scientific Affairs Division in the framework of the Science for Peace Program.

of resource management—that is, how the use of defense resources leads to a “product” that is required in order to implement the country’s security and defense policy. As a result of defense planning developments in the last decade or so, today it is generally recognized that main “product” of a defense establishment are its *capabilities*.<sup>1</sup>

In addition, in a good defense planning system the allocation of resources provides for a set of capabilities that is balanced across the full spectrum of nationally-endorsed missions of the armed forces. Under such a system, capabilities are developed and sustained in a cost-effective manner, planning risks are rigorously assessed, and risk estimates are smoothly incorporated in making resource allocation decisions. Three additional important criteria for assessing defense resource management are transparency, accountability, and flexibility. These subjects will be addressed in the second part of the essay.

There is certainly more than one way to create an effective defense resource management system. Many NATO members and Partner countries, influenced by the experience of the United States since the early 1960s, have implemented resource management systems in which plans are linked to budgets through *programs*.<sup>2</sup>

Thus, through these programs defense planners intend to link policy requirements and budgets. Secondly, programs serve to translate plans or vision of future defense and force structures—usually longer term documents that look ten, fifteen, or more years into the future—into short-term activities and decisions, such as budgeting, procurement, training, etc. Importantly, defense programs make visible the links between policy and budgets, long-term vision and short-term plans, rendering them clearly understood by decision-makers and all major stakeholders.

Defense programs are important management tools. In addition to their key role in the planning process, they support rigorous oversight of implementation. Receiving up-to-date information on the status of the defense programs, senior civilian and military leaders can realistically assess the status of defense reform and transformation efforts and, if necessary, implement corrective measures. In addition, information derived from defense programs facilitates the oversight and audit functions performed by the legislature and its specialized organizations, such as national audit offices.

## **What is a Defense Program?**

A defense program is a comprehensive rubric designed to articulate the intended use of defense resources to achieve measurable output. Currently, the prevailing understand-

---

<sup>1</sup> For a detailed discussion and an example of capability-based planning, see the article by Dr. Thomas-Durell Young in this volume, “Capabilities-based Defense Planning: Techniques Applicable to NATO and Partnership for Peace Countries.”

<sup>2</sup> The website of the Comptroller of the U.S. Office of the Secretary of Defense provides both historical context and information on current developments of the U.S. Planning, Programming, Budgeting, and Execution System; see [www.dod.mil/comptroller/icenter/budget/ppbsint.htm](http://www.dod.mil/comptroller/icenter/budget/ppbsint.htm) (30 April 2006). 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).

ing is that one major product or “output” of a defense establishment are the *capabilities* it possesses in order to implement—if and when necessary—any assigned missions in support of the implementation of a national or alliance security policy. The build-up of a capability requires the coherent development of doctrine, organizational structures, personnel, weapon systems, infrastructure, and training, among others.

The development of a defense capability, barring a few trivial cases, is also a lengthy process. For example, if a country does not have advanced fighter or bomber aircraft, but decides to develop capabilities to allow for long-range precision air strike, it may easily take a decade from the point a decision to develop such capability is made to the moment this capability can be effectively employed.<sup>3</sup> In addition, the development of new capabilities may be quite expensive. The continuation and maintenance of capabilities that do not relate to current policy is also expensive.

A defense 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 that also must take into account:

- Needs of current operations
- Long-term investments, e.g., in science and technology, development of strategic partnerships, etc.
- The necessity to deal with legacy issues

For these reasons, the effective management of defense is based on programs, including the program-based development of capabilities. Before turning to the issue of program-based defense management, there is a need to clarify more formally what is meant by a “capability.”

### *Capability Models*

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

Australian defense 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.”<sup>4</sup> 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.”<sup>5</sup>

---

<sup>3</sup> This is true even in cases where someone is already producing an aircraft that suits the capability requirements.

<sup>4</sup> See *Defence Capability Development Manual* (Canberra: Australian Department of Defence, 2006), 5; available at [www.defence.gov.au/capability/\\_pubs/dcdm%20\(2006\).pdf](http://www.defence.gov.au/capability/_pubs/dcdm%20(2006).pdf).

<sup>5</sup> *National Preparedness Guidance*, Homeland Security Presidential Directive 8 (Department of Homeland Security, April 2005), 6–7.

A capability may be delivered in a variety of ways. A number of countries have standardized models that describe the systems aspect of capability. For instance, the Canadian construct of capability inputs is known as PRICIE, the acronym standing for:<sup>6</sup>

- Personnel
- Research & Development/Operations Research
- Infrastructure & Organization
- 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.<sup>7</sup> These are:

- Organization
- Personnel
- Collective Training
- Major Systems
- Supplies
- Facilities
- Support
- Command and Management

Planners in the United States use the construct DOTMLP, which stands for:<sup>8</sup>

---

<sup>6</sup> Also called *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; available at [www.vcds.forces.gc.ca/dgsp/00native/rep-pub/j-cbpManualPdf\\_e.asp](http://www.vcds.forces.gc.ca/dgsp/00native/rep-pub/j-cbpManualPdf_e.asp) (20 January 2006).

<sup>7</sup> *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, n. 4; available at [www.mors.org/meetings/cbp/read/TP-3\\_CBP.pdf](http://www.mors.org/meetings/cbp/read/TP-3_CBP.pdf).

<sup>8</sup> *Ibid.*, 7, n. 6. The construct is commonly used by U.S. Army planners, but lately Air Force and Navy, as well as joint organizations (who add “Facilities” to the equation, resulting in DOTMPL-F) also find it useful in such efforts as analyzing functional needs and gaps and identifying solutions using enterprise architectures. See, for example, Ted Warner, “DOD’s Ongoing Efforts to Implement Capabilities-Based Planning,” paper presented at the 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). For the use of the construct in the U.S. Army, see *How The Army Runs: A Senior Leader Reference Handbook*, 25th ed. 2005-2006 (Carlisle Barracks, PA: U.S. Army War College, 2005), 10, 38–42; available at [www.carlisle.army.mil/usawc/dclm/linkedtextchapters.htm](http://www.carlisle.army.mil/usawc/dclm/linkedtextchapters.htm) (24 April 2006).

- **D**octrine
- **O**rganization
- **T**raining and Education
- **M**ateriel
- **L**eadership
- **P**eople

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 will (possibly with minor modifications) be introduced in the planning process of many countries. The NATO construct is known as **DOTMLPFI**, which stands for:<sup>9</sup>

- **D**octrine
- **O**rganization
- **T**raining
- **M**ateriel
- **L**eadership
- **P**ersonnel
- **F**acilities
- **I**nteroperability

Even though the models used in these various nations may differ, each one is intended to ensure appropriate levels of quality, consistency and balance in the capability components, or inputs. The development of a capability requires coherent development of human resources, the materiel component, doctrine, structure, and training. Programs are put in place to provide and steer this development.

### *Defense Programs*

Defense programs are intended to provide for the attainment of defense objectives within resource constraints. A *defense program* 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.”<sup>10</sup> The primary function of a defense program is to support resource decision-making, linking resources to products (see Figure 1) and providing for “output-oriented” policy and plans.

---

<sup>9</sup> See, for example, Admiral Sir Mark Stanhope, (then) Acting Supreme Allied Commander for Transformation, Briefing to the Conference of National Armaments Directors /CNAD/ (26 October 2005); available at <http://www.act.nato.int/multimedia/speeches/2005/051026asactcnad.html>.

<sup>10</sup> Adapted from the official Bulgarian Ministry of Defense document *Concept for Planning, Programming, and Budgeting in the Ministry of Defense and the Armed Forces* (Sofia: Military Publishing House, 2001), 14–15.

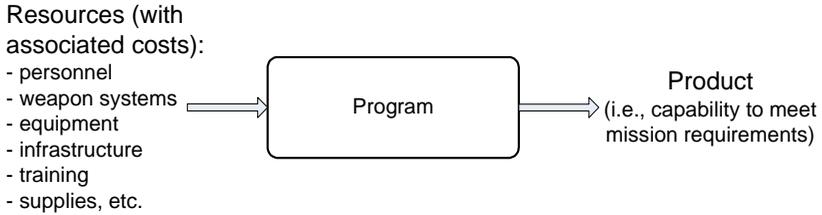


Figure 1: Designation of a Defense Program

This is usually a mid-term plan that looks four to eight years into the future. Since NATO in its defense planning and review process uses a six-year horizon—for instance, for most force goals, and in the reporting format of the Defense Planning Questionnaire—many NATO member countries and aspirants to Alliance membership also use programs that look six years ahead. In addition to connecting resources to intended results, a defense program also serves to relate long-term plans to budgets and other short-term plans.

### *Program Structure*

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

- Programs should allow, as clearly as possible, the linkage of spending to “product” (that is, capabilities—see Figure 1)
- Programs should be comprehensive
  - Nothing can be done and no money may be spent outside the program framework
  - Programs shall account for all money to be spent on defense (MoD budget, budgets of other ministries, bi-lateral programs, NATO, trust funds, etc.)
  - Final decisions need to be made on all programs at the same time, with an objective analysis of trade-offs
- Programs should provide for the feasible distribution of responsibilities among program managers, who should have a stake in the good design and successful implementation of the program
- Programs should be manageable—the program structure and procedures should provide opportunities to objectively assess and search for trade-offs in resource allocation

In the implementation of the first of these requirements, Canada’s Ministry of National Defence uses a program structure in which the programs are explicitly called

“capability programs.” Canadian planners work with five capability programs that, in combination, “encompass all the fundamental aspects of the business of defense in Canada, and do so by aggregating all the elements of capability planning into a simple—but not simplistic—framework.”<sup>11</sup> The five capability programs are:

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

In the development of program-based management for their armed forces, Ukrainian defense officials deliberate on a possible program structure, consisting of the following fourteen programs:

1. Capabilities for peace operations
2. Rapid reaction
3. Defense of the territory of the country
4. Capabilities to increase the defense potential (mobilization and reserves)
5. Command, control, and communications (strategic & operational C3)
6. Central logistics
7. Defense 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 sanatorial recreation)
12. Housing
13. Social adaptation
14. Utilization of surplus weapon systems, equipment, ammunitions, and infrastructure

Both program structures are similar in the way that they deal with (anticipated) “current operations” (Program 2 in the Canadian and Program 8 in the Ukrainian program structure); command and control capabilities (Programs 2 and 5 respectively); and centralized management functions (Programs 5 and 7 respectively).<sup>12</sup> Unlike the Canadian program structure, however, the Ukrainian draft program structure explicitly

---

<sup>11</sup> *Capability Based Planning for the Department of National Defence and the Canadian Forces*, 4–5.

<sup>12</sup> These similarities were only recognized in hindsight. At the time the proposed Ukrainian program structure was designed, the experts did not use information on the Canadian construct.

lists the requirements for investments in the future (Program 9), of tackling legacy issues (Program 14 and, partially, Program 13), and “quality of life” issues (Program 12 and, to a great extent, Program 11).

Both the Canadian and the draft Ukrainian program structures are capability-oriented. Other countries use program structures that, on the first level, to a significant extent reflect the organizational structure of the defense establishment. For example, the U.S. Future Years Defense Program (FYDP) consists of eleven major defense programs, as follows:<sup>13</sup>

1. Strategic forces
2. General purpose forces
3. Communications, intelligence, and space
4. Mobility (airlift and sealift forces)
5. Guard and reserve forces
6. Research and development
7. Central supply and maintenance
8. Training, health, and other personnel activities
9. Administration and associated activities
10. Support of other nations
11. Special operations forces

Bulgaria’s experience provides another example of an organizationally-oriented program structure:<sup>14</sup>

1. Land forces
2. Air Force
3. Navy
4. Central command and support
5. Interoperability and participation in multinational formations
6. Education and qualification
7. Security: Military police and Counterintelligence
8. Security through cooperation and integration
9. Quality of life
10. Science, research, and development
11. Administrative management
12. C4ISR systems

---

<sup>13</sup> *How The Army Runs*, 147.

<sup>14</sup> *Concept for Planning, Programming, and Budgeting in Bulgaria’s Ministry of Defense and the Armed Forces* (Sofia: Ministry of Defense, 2001).

### 13. Military information (intelligence)

A capability-oriented program structure provides decision makers with a better understanding of the policy implications of their resource decisions. However, when the first level of the program structure has a prevailing organizational orientation, additional measures need to be incorporated in order to provide for an output orientation of defense resource management.

#### *Programs as a Language of Communication*

All first-level programs when combined constitute “The Defense Program.”<sup>15</sup> Separate programs—component parts of the defense program—are key parts of the lexicon in the debate and communication at senior executive levels (in the Ministry of Defense, between the Ministries of Defense and Finance, in the Ministerial Council, etc.), between the executive and the legislature, and in the legislature during deliberations on defense policy and the defense budget.

Programs and program alternatives are designed by experts in the field. It takes considerable experience and specific expertise to design an efficient program for the development of a particular capability, as well as to cost that program, to design and to compare alternative programs.

On the other hand, decision makers—both in the executive and legislative branches—use distinct programs and program alternatives as building blocks in the design of a defense policy. Just like everyone uses words to create sentences,<sup>16</sup> decision-makers use a set of potential, alternative programs in order to find a construct that best fits a given set of defense objectives.<sup>17</sup> In advanced defense planning systems this task is known as creation of a *capability portfolio*.

For example, in 2003, during the deliberations on the proposed defense budget, the U.S. Congress decided not to finance a program for the development of an advanced concept for low-yield nuclear weapons, or “mini-nukes.” Debating policy (and politics), representatives decided that this program did not fit into the United States’ defense objectives and constraints (which are set legislatively) and hence cut the pro-

---

<sup>15</sup> The best-known designation is the U.S. FYDP—Future Years Defense Program.

<sup>16</sup> Another metaphor is to look at programs and program alternatives as building blocks of diverse shapes and sizes, out of which defense policy-makers need to select in order to build a good house within a set budget.

<sup>17</sup> The search for such a construct is also subject to variety of constraints, projected budget levels being one of the most significant.

gram. The program had a price tag of US\$ 6 million; thus, the Pentagon did not receive this funding.<sup>18</sup>

In comparison, a debate solely about resources, situated on the input side of Figure 1, cannot be a debate on defense policy. By the same token, a decision on the defense budget, formulated exclusively in the language of budget categories (titles, appropriations, paragraphs, etc.), cannot be a transparent resource allocation decision.<sup>19</sup> In the example of the “mini-nuke” program, had the Congress made a decision only on the budget,<sup>20</sup> the Pentagon would not have had any problem spending US\$6 million (out of a budget of US\$401 billion) to pursue the development of mini-nukes.

Another example is provided in the decision of the U.S. Congress to increase the 2004 budget of the U.S. Army by almost US\$20 billion compared to 2003, and to raise the personnel ceiling by approximately 30,000 soldiers. It is important to note that these decisions reflected the demands of ongoing operations, but were based on the program for the 2004–2009 period. The proposed program envisaged the build-up of certain capabilities and, at the same time, the elimination of parts of some more traditional capabilities associated with the security requirements of the Cold War. Figure 2 provides detail on this restructuring. Thus, budget and personnel levels were defined as a *consequence* of decisions on what capabilities were deemed necessary to achieve security and defense objectives.

## On the Defense Resource Management Process

Resource decisions are made within a process that in itself needs to be transparent to decision makers, so as to allow the preservation of a clear audit trail from national security objectives, through defense objectives, to the taxpayers’ money. Among the various requirements of the resource management process, this introductory article briefly examines three essential questions that any such process must address:

- How to create affordable (i.e., resource constrained) plans?
- How to deal with uncertainty?

---

<sup>18</sup> More precisely, the 2004 defense spending bill authorized *research* on small, low-yield nuclear weapons of less than five kilotons, but did not provide funding for *development* or *production* of such nuclear weapon systems. In addition, the 2004 Defense Authorization Act included 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; available at <http://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); available at [www.wagingpeace.org/articles/2003/12/09\\_wang\\_congressional-bills.htm](http://www.wagingpeace.org/articles/2003/12/09_wang_congressional-bills.htm).

<sup>19</sup> “Transparent” here means “clearly understood,” i.e., that decision makers understand the consequences, both positive and negative, of their decisions.

<sup>20</sup> Just like the legislatures of many new NATO members and partner countries do.

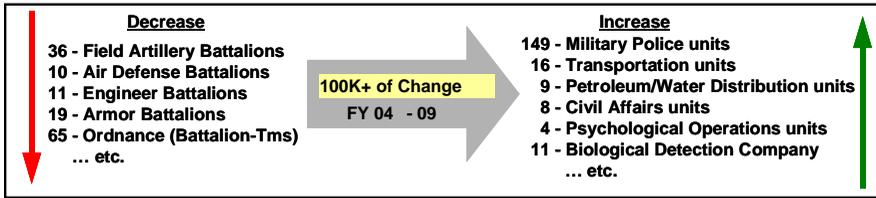


Figure 2: Restructuring of the US Army in the 2004-09 Program.<sup>21</sup>

- How to support the senior civilian leadership of a Ministry of Defense in the exercise of its authority and obligations as agents of democratic control of the armed forces?

*Program Decisions as Milestones Towards Budget, Procurement, and Other Short-term Plans*

Often, decisions that are made regarding required capabilities, or defense requirements in general, are *resource informed*. That is to say, they are generally assessed as realistic, but not necessarily *resource constrained*; they are designed to approximately fit within defense budget forecasts. When program decisions are made, the cost of the defense program for each future year does not exceed the defense budget forecast for the respective year.<sup>22</sup>

The availability of a good defense programming mechanism is a key element in making the process transparent to decision makers. When such a mechanism exists, senior decision makers are able to concentrate on program decisions, and an endorsed defense program substantially serves as the sole authoritative source for all subsequent short-term plans, including the defense budget, procurement plans, etc.

Here it is important to remember the principles of programming that were enumerated above. The defense program shall be comprehensive: nothing can be done and no money may be spent outside the program framework; there are no parallel planning processes with resource implications; and all program decisions (on the highest program level) are made at the same point in the decision-making process. This is the only way to guarantee that the defense program is affordable, and that 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 both affordable and consistent.

<sup>21</sup> “Building Army Capabilities,” Draft Working Paper, prepared on behalf of President Bush (28 January 2004); available at [www.comw.org/qdr/fulltext/0401armstructbrief.ppt](http://www.comw.org/qdr/fulltext/0401armstructbrief.ppt).

<sup>22</sup> Often this requirement is strictly enforced only for the first two to three years of the defense program.

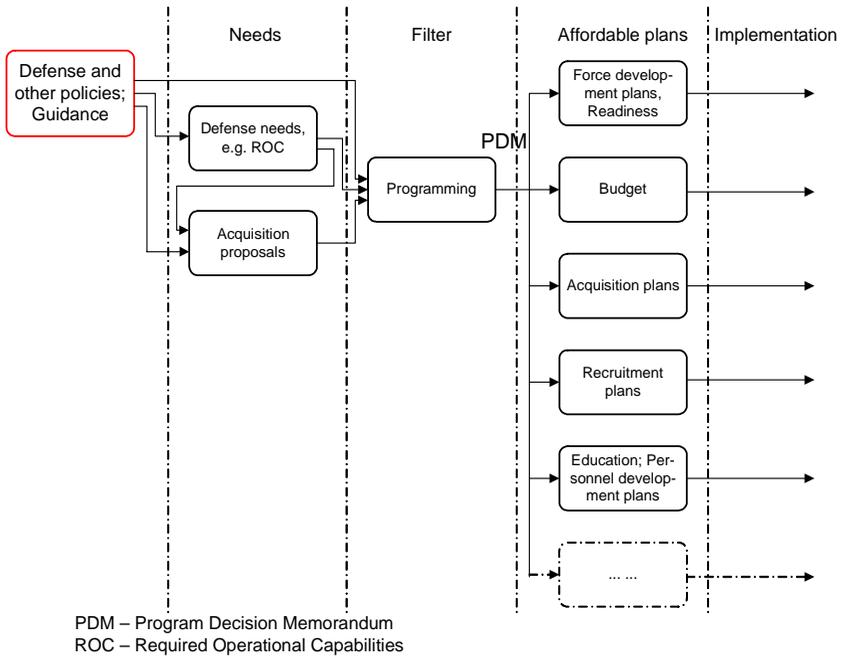


Figure 3: Defense Programming as a Filter of Competing Demands

*Dealing with Uncertainty*

Defense programs, like all plans in general, are designed under certain assumptions and forecasts, but are then later implemented in a different environment. As a result, it is rare that a program or a plan is implemented and achieves the results *exactly* as prescribed. The explanations for this variability might include a need to undertake or participate in an unforeseen operation, changes in the economic environment, changes in the nation’s income or social insurance policy, an inability to meet recruitment targets, delays in procurement procedures, etc.

An efficient way to deal with the impact of such uncertainties is the use of *roll-on programming*—that is, new programs are designed bi-annually<sup>23</sup> or, in cases where a higher level of uncertainty exists, annually.<sup>24</sup> A considerable number of NATO member countries use such roll-on planning mechanisms. (A notable exception is France, where a fixed six-year program is required by law. Once implemented, it is followed by

<sup>23</sup> For example, in the U.S. DoD’s Planning, Programming, Budgeting, and Execution System (PPBES).

<sup>24</sup> Bulgaria’s Integrated Defense Resource Management System may serve as an example of this type.

another legislatively approved six-year program. Ukraine is currently attempting to implement a similar approach, albeit under considerably higher levels of uncertainty.)

On occasion, the uncertainty may be even more dramatic, perhaps due to very high (and unpredictable) inflation rates; a lack of planning experience; or undisciplined implementation, such as procurement of weapon systems that are not included in the programs. In such cases it may be necessary to review and update program 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 a reallocation of the budget among defense programs. Both mechanisms—roll-on programming and pre-programming—provide flexibility in defense resource management while preserving transparency and accountability.

Other—qualitative—changes in the environment influencing the development of the armed forces—the rise of a new threat, the creation of or accession to a defense alliance, the impact of a disruptive technology, a new political party coming to power, etc.—cannot be accommodated through conventional defense resource management mechanisms. To account for such uncertainties, countries conduct comprehensive, in-depth analyses—sometimes referred to as Strategic Defense Reviews (SDR)<sup>25</sup>—that facilitate decisions on future force structure.<sup>26</sup> This is a target force structure for a point fifteen to twenty (or more) years in the future that guides the design of force development programs.

### *Involvement of the Senior Civilian Leadership*

At a minimum, a program-based defense resource management system includes the following steps:

1. Preparation of a programming guidance document
2. Design of programs and program alternatives
3. Program review, culminating in a decision on the Defense Program;
4. Budget planning
5. Budget execution
6. Reporting
7. Auditing

The design of programs (Step 2) is an expert activity, based on considerable specialized knowledge and experience in the respective field. The preparation of the draft defense budget in Step 4 should strictly reflect ministerial decisions made as a result of the program review. Therefore, budget planning usually does not involve strategic

---

<sup>25</sup> 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); available at [www.mod.uk/NR/rdonlyres/65F3D7AC-4340-4119-93A2-20825848E50E/0/sdr1998\\_complete.pdf](http://www.mod.uk/NR/rdonlyres/65F3D7AC-4340-4119-93A2-20825848E50E/0/sdr1998_complete.pdf).

<sup>26</sup> Usually, only a few main parameters of the force structure are defined. French planners designate it as a *model*, while U.S. defense planners regularly use the term *vision*.

ministerial decisions, 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 defense audits, as seen in Steps 5, 6, and 7.

All these steps are important in order to have an effective defense resource management. However, the attention of the senior civilian leadership, including the minister or secretary of defense, is most intently focused on programming guidance and program review (Steps 1 and 3 respectively).

The programming guidance, usually issued by the minister of defense, sets explicit defense objectives, primary requirements, priorities, an overall budget level and preliminary budget quotas for each main program, provides information necessary to cost defense programs, assigns responsibilities, and sets the programming schedule. In Step 3 above, experts assess the correctness of the program's design and its compliance with the programming guidance, but senior leaders decide on the programs and program alternatives to be financed, and thus on the capabilities that will be developed, maintained, or eliminated.<sup>27</sup> This decision is recorded in a document, often called a "Program Decision Memorandum" which, after authorization from the minister of defense, serves as an authoritative statement of both policy and budget decisions of the senior leadership of the defense establishment.

Thus, the program-based defense resource management process facilitates accountability and transparency. Military and civilian experts design programs in compliance with policy guidance, and their proposals are transparent to decision-makers. Once decisions are made, the experts are responsible for ensuring efficient and effective implementation of the programs. On the other hand, civilian leaders are bound by their own decisions formulated both in the programming guidance and the program decision memorandum. All stakeholders share a clear understanding of what the decisions mean. Finally, regular reporting on program implementation in a standard format provides for effective implementation oversight.

## Conclusion

In the implementation of the principles of program-based defense resource management, both new NATO members and Partner countries face a number of similar problems. Without attempting to be exhaustive, some of these issues include:

- A lack of related defense planning experience, in particular in business process management; design of defense programs; costing of programs; assessment of cost effectiveness, and analysis of alternatives in general; assessment of planning

---

<sup>27</sup> For details on civil-military interaction, based on the experience of Bulgaria's defense establishment, refer to Todor Tagarev, *Control, Cooperation, Expertise: Civilians and the Military in Bulgarian Defence Planning Experience*, ISIS Research Reports No. 14 (Sofia: Institute for Security and International Studies, 2003); available at [http://www.isn.ethz.ch/isis/Publications/research\\_reports/research\\_report\\_14.htm](http://www.isn.ethz.ch/isis/Publications/research_reports/research_report_14.htm) (28 April 2006).

risks; and incorporation of risk management methodologies in the defense planning process.

- No formal operational planning process that produces objective metrics that clearly identify capability gaps in existing force structures when measured against established operational objectives.<sup>28</sup>
- Organizational resistance, often drawing on the culture of secrecy, particularly within the military establishment, but also among the budget planning and financial management community. Actually, organizational resistance is to be expected, since the introduction of a new type of resource management inevitably leads to redistribution of power, or decision-making authority.
- The use of the term *program* itself. If a defense establishment intends to introduce program-based defense resource management, it should use the term sparingly and with the meaning described in this article.

The final (and perhaps the most important) lesson is that implementation cannot be successful unless the senior resource manager—the minister of defense or a designated deputy minister—acts in concordance with the principles of program-based resource management. Program-based defense resource management is a highly efficient tool for managing defense transformation while providing for transparency of decision-making, democratic control of the armed forces, and accountability of elected officials. It is one of the few available tools that enables planners to effectively implement capabilities-based planning and to assess the implementation of plans, programs, and budgets.

In particular, the introduction of the programming phase is seen as crucial to relating defense policy to financial allocations, assuring “value for money” budgeting and, potentially, effective democratic oversight of the armed forces. The implementation of program-based defense resource management can be greatly facilitated if the legislative body requests the submission of the draft defense budget accompanied by adequate program descriptions, as well as program-based performance reports by the executive branch of government. Ultimately, program-based defense resource management promotes civilian participation in the development of defense policy and contributes substantially to the effective, transparent, and economically viable management of defense spending.

---

<sup>28</sup> Details are provided in Aldo Kask, Jaan Murumets, and Thomas Young, *Approaching the Need for Defence Reform: Background and Outlines of Suggested Estonian Defence Planning System* (Tartu: Estonian National Defence College, 2003), 9–32; available at [www.mod.gov.ee/static/sisu/files/Proceedings1\(PPBS\).pdf](http://www.mod.gov.ee/static/sisu/files/Proceedings1(PPBS).pdf).